

FOREST GROVE COMPREHENSIVE PLAN

VOLUME 1

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Amendments

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Volume 1: Comprehensive Plan Text

Table of Contents

Preface	10
Chapter 1: Background	14
Chapter 2: Citizen Involvement	20
Chapter 3: Community Sustainability	30
Chapter 4: Land Use	38
Chapter 5: Housing	64
Chapter 6: Economic Development	92
Chapter 7: Public Facilities and Community Services	118
Chapter 8: Education and School Facilities	188
Chapter 9: Natural Resources and Hazards	216
Chapter 10: Urbanization	232
Chapter 11: Transportation	248

Volume 2: Economic Opportunity Analysis

Volume 3: Transportation System Plan Volume

Volume 4: Background Information (Separate Cover)

Background Information

Preferred Land Use Concept Map

Buildable Land Inventory

Residential Land Study

Growth Capacity Assessment

Metro Gamma Growth Projections

Metro 2040 Concept Map

Transportation Analysis Zone Map

Land Use Inventory and Map

Urbanization Memos

Public Facilities Memos

Comprehensive Plan Map

References

Economic Opportunity Analysis (2009)

Economic Development Strategic Plan

Land Use Inventory (2011)

Local Wetland Inventory (1996)

Wetland Inventory Update (2011)

Facilities Plan

Emergency Operations Plan

Parks Master Plan (2002)

Wastewater Master Plan (2007)

Sanitary Sewer Master Plan

Storm (Drainage) Master Plan (2007)

Substation Master Plan (2013)

Library Strategic Plan

Commercial Corridor Study

Metro Regional Framework Plan

Metro Regional Functional Plan

Regional Transportation Plan (2013)

Regional Solid Waste Management Plan (2008-2018)

Forest Grove Transportation System Plan (2014)

Metro Urban Growth Report (2009)

Relative Earthquake Hazard Maps

Pacific University Master Plan Update (2013)

Forest Grove Transit-Oriented Development Plan and Implementation Strategy (2011)

Statewide Land Use Planning Goals

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Preface

The **Forest Grove Comprehensive Plan** charts a new course for our City. A course based on shared values, a common belief in protecting our natural heritage, and a strong commitment to a sustainable and prosperous community.

The plan update is the first major revision to the Forest Grove Comprehensive Plan since the mid-1980s. Much has changed since that time. Forest Grove has become much more integrated with the Portland region. Our economy has diversified and new neighborhoods providing housing for workers in Hillsboro and western Washington County have been built. This change brings both opportunities and challenges. It is these opportunities and challenges that the plan addresses.

Forest Grove residents and business leaders came together in 2006 and 2007 to draft an updated Vision Statement for the community. Hundreds of volunteer hours were donated to this effort. The Vision Statement provides the basis for the Forest Grove Comprehensive Plan. Among other things, the Vision Statement recognizes Forest Grove's rich heritage, location, the arts and culture and community.

Preface

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Forest Grove Vision Statement

This statement is written and designed to reflect the best of what exists now, and what we aspire to become, as a community.

Forest Grove is a friendly, twenty-first century, small, full service city. It was settled in 1841 by pioneers who valued respect for education, faith, enterprise, service to humanity, and the bountiful resources of the Tualatin Plain. Those values persist to inspire a common vision for a high quality of life in a thriving and progressive community that reaches from its historical commercial core around Pacific University to a horizon of forests, farms, vineyards, and the Coast Range. As an engaged and diverse people, we assure sustainability in our economy and our environment, thus supporting a community that nurtures our youth, educates all residents, and attracts and welcomes visitors. Forest Grove is itself a *destination* that thrives by *design* and is our *home*.

Forest Grove is a *Destination* that offers visitors and residents:

- **A rich heritage** preserved by honoring the city's natural, cultural, and historic treasures while also embracing the future.
- **A centrally located gateway** to forests, waterways, beaches, and mountains; this wealth of resources is cherished and preserved to foster sport, recreation, reflection, and leisure.
- **Arts & culture** that abound throughout the year; we celebrate our cultures and participate in a wide variety of visual and performing arts and festivals.
- **A community** recognized for its commitment to conserve, preserve, protect and restore our natural assets.

Forest Grove is a community by *Design* through:

- **Participation** of an engaged public and accessible, responsive government.
- **Planning** that considers and accommodates both the desires and needs of all community members to ensure their quality of life and prosperity.
- **Sustainable transportation** modes, systems, and networks that provide opportunities for all too conveniently and safely move about within and outside of the community.
- **Economic development** that encourages innovative, diverse and ecologically sound enterprises that provide ample opportunities for employment, and ensures the vitality of the community.
- **Fiscally sound funding** of quality public safety and municipal services including locally owned public utility and watershed.

Forest Grove is *Home* to:

- **Individuals** who are respected and valued for their experience, abilities, and differences, and where all residents are included in the life of the community through excellent education, recreation, and social programs.
- **Young people** who are nurtured and encouraged to achieve their full potential.
- **Families** of every size and description who have community resources needed for lifelong learning and development.
- **Older residents** whose ongoing leadership, wisdom and investment in the community build the foundation for our future.
- **Distinctive neighborhoods** replete with a variety of accessible housing options, schools, parks, places of worship and social gathering, and farmlands and open spaces.
- **A community** in harmony, bound by commonly shared respect for its residents, natural resources, economic vitality, and its active role in a global society.

**City of Forest
Grove**

**Vision
Statement**

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Chapter 1

Background

Introduction

Forest Grove is a full-service community located at the far western edge of the Portland regional urban growth boundary near the foothills of the Coastal Mountain Range. The surrounding farms and forest give the community a rural feel seemingly far removed from the suburban landscape found elsewhere in the region. Because of this unique setting, Forest Grove has the resources and natural amenities that form the very character and high quality of life experienced by residents and visitors of the community. The Forest Grove Comprehensive Plan strives to protect this quality of life while accommodating expected housing and employment growth over the next twenty years.

In addition to Forest Grove's natural setting, Forest Grove is home to Pacific University, a renowned private liberal arts and health professions university. The city is also known for its strong and vibrant historic town center, mature and developing neighborhoods, a retail corridor, high quality parks and open spaces, and many community gathering places where cultural and entertainment events take place throughout the year.

These amenities, available land, and competitive cost of living, have helped fuel a steady rate of population growth since the comprehensive plan was adopted in 1980. In 1980, the population of Forest Grove was about 11,500 persons. Since 1980, the population of Forest Grove has almost doubled to over 21,000 persons. The prediction of the 1980 plan that Forest Grove can be expected to almost double its population over the next twenty years was very well founded.

Although Forest Grove will not likely experience another doubling of its population over the next twenty years growth will continue at a steady pace. Population growth will occur due to natural increase, nearby employment opportunities, moderate climate availability of water and competitive local utility rates. It is expected that the population of Forest Grove will increase to about 28,000 persons by the year 2030. This population will require approximately 2,500 housing units based on an average of 2.71 persons per dwelling unit. This represents approximately 50% of the development capacity within the urban growth boundary of approximately 4,850 housing units. This suggests that it's possible to accommodate expected residential growth within the confines of the existing urban growth boundary. In contrast, analysis suggests that land within the urban growth boundary is inadequate for large lot industrial needs. The land use and economic development elements of the comprehensive plan addresses land needs in more detail.

The comprehensive plan is a tool for maintaining the quality of livability of the community by coordinating development and use of natural resources with anticipated urban growth as it occurs. The plan will be most effective as a tool to provide long run money saving benefits not only to City

Background

government function but to the community as a whole. Development will be coordinated with utility services so that streets, water lines, sewers, storm drains, etc. will not be overloaded before their economic life has finished. Services and development will be provided in a logical, sequential manner in an effort to reduce duplicating costs and environmental damage.

Significant Changes since Last Plan Update

Aside from population growth, there have been many significant changes since adoption of the Comprehensive Plan in 1980. Western Washington County has experienced considerable employment growth with the evolution of the high technology sector; the Oregon Highway 47 bypass was constructed changing traffic patterns in the city; and significant policies affecting land use were adopted by regional and state agencies as explained below.

Hillsboro exemplifies much of the change in western Washington County since 1980. Hillsboro has grown from a population of about 28,000 persons in 1980 to a population of over 90,000 persons in 2010. Some of this growth is attributable to annexation of previously unincorporated territory. However, considerable population growth is due to gains in employment especially in the high technology sector.

The growth of Hillsboro is clearly beyond our control, however what happens in Hillsboro has an impact on Forest Grove. Such impacts include the type of housing built in Forest Grove, the shopping opportunities that are provided for residents and the need for new or expanded roads to accommodate commuting to job opportunities outside the city.

To help tackle regional issues such as housing and transportation, Metro adopted the Region 2040 growth management concept in 1995. The Region 2040 concept impacts how and where cities in the region grow. Generally, regional growth is guided by the location of the urban growth boundary, regional investments in transportation, local zoning designations including minimum density requirements, annexation policies and location of water and sewer lines. Region 2040 addresses growth management by promoting mixed-use town centers, a multi-modal transportation system, coordination between land use and transportation decisions, and separation between urbanizable and rural lands.

As noted above, transportation decisions have significant impacts on the use of land. The Regional Transportation Plan (RTP) adopted by Metro, impacts how federal and certain state transportation funds are spent in the region. Adoption of the RTP is a federal requirement for use of federal transportation funds. As a result of this requirement many transportation decisions are made at the regional level. Metro has the responsibility for allocating federal transportation projects such as investment in high capacity transit as well as highway improvements. Regional allocation of the limited and decreasing transportation funding for local needs is highly competitive. Close coordination with regional partners is needed to ensure Forest Grove's interests are considered and acted upon.

Another significant policy change is the establishment of urban and rural reserves in the Portland area. The Oregon Land Conservation and Development Commission will consider regional recommendations for urban and rural reserves. These reserves are intended to identify areas for potential urbanization during the next fifty years as well as areas where agricultural and forestry operations will be protected. The intent of this policy is to provide certainty to the agricultural community and development interests. This certainty will enable long term financial investment decisions in and around the region.

Plan Context

Forest Grove's Comprehensive Plan represents a cooperative effort by the City and its residents, businesses, and industries. The principal aim of the plan is to establish a coordinated set of policies addressing the quantity, quality and location of future urban development in and around Forest Grove. By developing and adopting such a set of policies for the area, future urban development can be guided into

areas best suited for development taking into account areas with severe building limitations or where municipal services cannot be provided in a cost effective manner. Through such efforts urban sprawl type development can be avoided saving acres of valuable agricultural and forestry land as well as other natural resources.

While the comprehensive plan represents a position and commitment by the entire community relative to urban growth, many of the adopted policies represent specific directives for action to various City departments, commissions, and the City Council. Based in Oregon State Law, the authority and responsibility for the planning, management and protection of the community's resources, the coordination of the physical development, and the provision of adequate public facilities and services are all under the purview of local government. However, it is the intent of the law that policies contained in the comprehensive plan should reflect the position of the general public through an adopted citizen involvement program. It was through just such a process that the Forest Grove Comprehensive Plan was developed.

Predictability in Planning

Planning is a process. This process is intended to provide an opportunity for citizen involvement in the preparation of plans and policies affecting land use. This process is also intended to improve predictability in land use decisions. The aim is to establish policies leading to decisions that provide landowners with clear expectations as to what they can and can't do with their land. In addition to guiding how land might be used today, the comprehensive plan also describes how land could be used in the future. Therefore, by its very nature, the comprehensive plan should reduce uncertainty for landowners and the community as to what that vacant tract of land next to a subdivision might be used for in the future.

Forest Grove in the Region

Forest Grove's place in the region has changed since the comprehensive plan was adopted in 1980. Forest Grove is located in the far western boundary of the Metro Portland planning area. In relation to other cities in the Portland regional urban growth boundary, Forest Grove is located the furthest from downtown Portland. Forest Grove is roughly the same distance from downtown Portland as Newberg and Estacada. This presents both opportunities and challenges for the City. First, land use and transportation policies that might work in Portland, Tigard or Beaverton may not be applicable to Forest Grove. Comparatively, population densities are lower and land economies are very different in Forest Grove than larger and closer-in cities with better access to Interstate 5 and Highway 26. Regional policies should take these differences into consideration.

Forest Grove's role in the region is defined by Forest Grove being a college town; a market center for the surrounding western Washington County agricultural areas; a retirement community; and place to live and raise a family while also working in the high technology industries of western Washington County.

Forest Grove's planning area includes the area within the Forest Grove city limits as well as unincorporated territory within the urban growth boundary west of the City of Cornelius. Roles and responsibilities for planning in the unincorporated area are described in the urban planning area agreement between the City of Forest Grove and Washington County.

Issues and Opportunities Addressed in the Plan

The Forest Grove Comprehensive Plan identifies a number of issues and opportunities. Issues include limited employment options in Forest Grove, improved transportation connections to the region including Hillsboro, limited retail opportunities in the City, lack of Town Center gathering place.

Opportunities include proximity to Hillsboro, proximity to agricultural resources, Pacific University, cost competitive electrical rates, water supply and local control over watershed, Town Center.

Fundamentally a comprehensive plan is a map and coordinated policy statement showing how the city expects to grow in the future. A comprehensive plan is more than a map or list of goals of goals and objectives. The plan shows what's important to the community – what we as residents' and business owners' value. It shows how parts of the city are interrelated. It shows how we'll respond to change and ensure that current and future community needs are met. Simply put a comprehensive plan is who we are as a community.

- It is a policy document intended to coordinate decision making;
- It is a database that establishes a sound basis for decisions. Data should be updated and consulted as part of making land use findings and decisions;
- It sets broad priorities for the City
- It establishes the basis for land use and development regulations
- It coordinates decision making
- It gives guidance to landowners and developers
- It provides certainty about how and where the city grows
- It ensures there is an adequate supply of land for expected housing and employment needs.

Planning Authority

Oregon Revised Statutes (ORS) Chapter 197 provides the legal framework for local planning in the State of Oregon. ORS 197 describes the planning responsibilities for cities and counties. Under this statute cities must prepare, adopt, or amend and revise comprehensive plans in compliance with goals approved by the Land Conservation and Development Commission. In addition, cities must enact land use regulations to implement the comprehensive plan. Land use decisions must be made in compliance with an approved (acknowledged) comprehensive plan and land use regulations.

Oregon Revised Statutes Chapter 195 addresses local government planning coordination. ORS Chapter 195 describes procedures for annexation of unincorporated territory, urban reserve areas, urban service agreements, and regional coordination of planning activities.

Oregon Administrative Rules establishes guidelines for meeting State of Oregon Land Use Planning Goals.

Metro Region 2040 Growth Concept

Metro adopted the Region 2040 growth concept in 1995 to promote the efficient use of land within the urban growth boundary. The underlying premise of the growth concept is to preserve access to nature and promote strong communities for people who live in the Portland region today and will live here in the future.

The growth concept establishes a hierarchy of mixed-use, pedestrian friendly centers that are well connected by high capacity transit and corridors. The concept supports a multi-modal transportation system that ensures continued mobility of people and goods throughout the region. Coordination of land uses and the transportation is imperative to realizing the future envisioned by the growth concept. Finally, the concept promotes an urban to rural transition to reduce sprawl and keeping a clear distinction between urban and rural lands. The Region 2040 growth concept defines several categories of land uses including regional centers, town centers, transit station communities, corridors and employment areas.

Regional centers are larger established concentration of activities. There are seven regional centers in the Portland area. Hillsboro serves the western portion of the region. Regional centers are the focus of compact development, redevelopment, high quality transit service, and multi-modal street networks.

Town Centers are smaller than regional centers serving a more localized market area. Similar to regional centers, town centers are characterized by compact development and transit service. Town centers provide local shopping, employment, cultural and recreational opportunities. Downtown Forest Grove is a designated town center under the Region 2040 growth concept.

Transit station communities are concentrations of development focused around a light rail or high capacity transit station. Station communities feature a high quality pedestrian environment with sufficient densities to encourage transit use. Station communities encompass an area approximately one-half mile from a station stop. As of 2009, the Region 2040 growth concept does not designate any station communities in Forest Grove.

Corridors are not as dense as centers but are located along good quality transit lines such as TriMet Line #57. Corridors are areas with opportunities for increased development densities, high pedestrian environments and convenient access to transit. Typical development along corridors include: rowhouses, duplexes and one- to three-story office and retail buildings. Some corridors are characterized by narrow bands of higher intensity development along arterial roads. Others are more nodal with smaller focused areas of activity at major intersections or locations with high quality pedestrian access, good connections to surrounding neighborhoods and convenient transit access. Pacific Avenue/Oregon Highway 8 is a designated corridor in the Region 2040 Growth Concept.

Industrial and employment areas are locations needed to meet current and projected manufacturing, warehousing and wholesaling activities. These areas are generally found near major transportation routes and inter-modal facilities including air and marine terminals, freight rail yards and truck terminals.

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Chapter 2

Citizen Involvement

This element of the Forest Grove Comprehensive Plan promotes the principles contained in the City's Vision Statement and Oregon Statewide Planning Goal 1: Citizen Involvement.

The City's Vision Statement was written to reflect the best of what exists now, and what we aspire to become as a community. The full text of the Vision Statement is attached at the end of the Citizen Involvement Element. Citizen participation is a key element of the Vision Statement. The City's Vision Statement encourages a community by design through:

"Participation of an engaged public and accessible, responsive government."

This element of the Forest Grove Comprehensive Plan supports and promotes this key component of the Vision Statement.

To comply with Goal 1 a city must implement a local citizen involvement program that ensures the opportunity for citizen involvement in all phases of the planning process. In addition, Goal 1 encourages the coordination of planning efforts among federal, state, and regional agencies and special purpose districts.

By its very nature comprehensive planning is broad based and delves into a variety of subjects. These subjects are included in this comprehensive plan. Subjects include land use planning, transportation, local economy, parks and recreation, and natural resources. A broad-based citizen involvement program is necessary to provide opportunities for effective and meaningful citizen participation in developing plans and making planning decisions in many topical areas. The following section of the comprehensive plans shows how the City of Forest Grove complies with requirements of Goal 1.

Statewide Land Use Planning Goal 1 requires that local citizen involvement programs incorporate the following components:

- ✓ *Provide for widespread citizen involvement;*
- ✓ *Assure effective two way communication with citizens;*
- ✓ *Provide the opportunity for citizens to be involved in all phases of the planning process;*
- ✓ *Assure that technical information is available in an understandable form;*
- ✓ *Assure that citizens will receive a response from policy-makers; and*
- ✓ *Insure funding for the citizen involvement program*

Citizen Involvement

Each of these components is described further below:

Provide for Widespread Citizen Involvement

The City of Forest Grove provides for widespread citizen involvement in a variety of ways. Citizen involvement is possible through the various city boards and commissions and ad-hoc citizen involvement committees. Several boards and commissions have direct input into subjects covered by the comprehensive plan. These boards and commissions include:

- Planning Commission;
- Economic Development Commission;
- Community Forestry Commission;
- Historic Landmarks Board; and
- Parks and Recreation Board

The Forest Grove Committee for Citizen Involvement (CCI) provides another opportunity for citizen involvement into matters important to the community. The CCI fulfills the Goal 1 requirement for an officially recognized committee for citizen involvement that is broadly representative of geographic areas and interests related to land use and land use decisions. The Forest Grove CCI advises the City Council on ways to include residents in Planning Forest Grove's future with an emphasis on communication and land use. Significant responsibilities of the CCI include:

- Encourage and facilitate citizen involvement, access and opportunity to be involved in the land use process;
- Achieve two-way communications between citizens and policy makers; and
- Conduct the Annual Town Meeting

To Assure Effective Two Way Communication

The Forest Grove CCI strives to assure effective two-way communication between city residents, business and property owners and city policy makers. The primary tool used by the CCI is the Annual Town Meeting and participation on community events such as the Forest Grove Farmers Market. E-mail communication and social media are other methods used to promote two-way communication.

Provide for the Opportunity for Citizens to be Involved in all phases of the planning process

State Land Use Planning Goal 1 promotes opportunities for involvement in all phases of the planning process. This includes preparation of plans and implementation measures, plan content, plan adoption, minor changes and major revisions in the plan and implementation measures.

In addition to formal and ad-hoc boards and commissions, the City publishes newspaper articles and inserts to highlight major planning initiatives and initiate a community dialogue.

Assure that technical information is available in an understandable form

Technical information is prepared to support the ongoing operations of the City. Technical information is routinely prepared by the Planning Division, Engineering Division and to support the annual budgeting

process. The City of Forest Grove provides technical information prepared for these efforts in an understandable form using a variety of methods. City staff writes and submits guest opinion articles for publication in local newspapers. City staff also prepares newspaper inserts for major planning initiatives highlighting alternatives and policy recommendations. Draft plans and studies are also placed in the Forest Grove Community Library for community review. In addition, the Annual Town Meeting conducted by the Committee for Citizen Involvement provides another opportunity to present technical information in an understandable way for community discussion.

Assure that citizens will receive a response from policy-makers

Programs are in place to assure that citizens receive a response from policy makers. The City uses social media to encourage a two-way dialogue between city staff, elected officials, residents, business owners and property owners. In addition, the City solicits comments regarding City business through the City of Forest Grove website. As part of the City's communications strategy, the City's Legislative and Executive Department ensures that questions submitted are answered in a timely manner.

Insure funding for the citizen involvement program

The City's annual budget reinforces the importance of citizen involvement in Forest Grove. It is a stated goal of the City's Legislative and Executive Department to solicit citizen input through frequent, clear communication efforts. Public information is a specific line item in the various City departmental budgets.

City Boards and Commissions

To encourage broad-based citizen participation the City Council has established several advisory boards and commissions. These boards and commission address specific policy areas relevant to the Forest Grove Comprehensive Plan. These boards and commission include:

- Planning Commission (Land Use and Transportation Planning)
- Economic Development Commission (Local Economy)
- Parks and Recreation Commission (Parks and Recreation Master Plan)
- Community Forestry Commission (Urban Forest/Natural Resources)

City Council Coordination

The Forest Grove City Council supports inter-agency coordination by serving as liaisons to various local and regional organizations. These organizations include:

- Forest Grove Chamber of Commerce
- Washington County Community Development Block Grant Program
- Economic Development Partnership
- Fernhill Wetlands Council
- Forest Grove Senior and Community Center
- Forest Grove Rural Fire Protection Board
- Joint Water Commission
- Metro Policy Advisory Committee
- Washington County Public Safety Coordinating Committee
- Regional Water Providers Consortium

- Ride Connection
- Washington County Coordinating Committee

City Service Clubs and Organizations

The City is home to many organizations that provide opportunities for citizen involvement. These service clubs and organizations include:

- Adelante Mujeres;
- Dairy Creek Food Web;
- Forest Grove Daybreak Rotary Club;
- Forest Grove Noon Rotary Club;
- Friends of Historic Forest Grove;
- Forest Grove Elks;
- Friends of Fernhill Wetlands;
- Friends of Forest Grove Library;
- Kiwanis Club of Forest Grove;
- Lions Club of Forest Grove; and
- Masonic Holbrook Lodge #30.

Other clubs and organizations providing opportunities for community interaction are listed on the City of Forest Grove website.

Goals and Policies

Goal 1.1: City Vision Statement

Ensure the ongoing relevance of the City's Visions Statement for all citizens of Forest Grove.

Policy 1.1.1 The Committee for Citizen Involvement will periodically review and initiate updates to the City's Vision Statement to reflect emerging issues and the changing needs and desires of the community.

Policy 1.1.2 The Committee for Citizen Involvement will work to ensure implementation of the City's Vision Statement as City resources allow.

Goal 2.1: Citizen Involvement Program

Promote the participation of an engaged public and accessible, responsive government.

Policy 2.1.1 Encourage broad-based and active citizen involvement on the City's advisory boards and commissions including participation by students and communities typically under-represented in civic affairs.

Policy 2.1.2 Promote the ongoing training of citizen volunteers serving on boards and commissions to encourage community leadership.

Policy 2.1.3 Pursue emerging technologies and platforms to promote and encourage citizen involvement in all phases of the planning process.

Policy 2.1.4 Identify areas of City government in which a formal citizen advisory committee or commission is warranted if funding and staff resources are available.

Goal 3.1: Inter-Agency Coordination

Promote the interests and needs of Forest Grove in local, state and national affairs.

Policy 3.1 Provide adequate resources to support meaningful participation of elected leaders and appropriate city staff on committees having a role in land use planning and civic affairs.

Citizen Involvement

Goals and Policies

Goal 4.1: Fund Public Outreach and Education Efforts

Implement a framework for facilitating open two-way communication between City representatives and the broader community.

Policy 4.1.1 Support the Committee for Citizen Involvement in initiating and planning community events about important City matters affecting the general public.

Policy 4.1.2 Continue to budget resources for public outreach and education as part of the annual budget process.

Goal 5.1: Updating the Forest Grove Comprehensive Plan

Encourage and facilitate citizen involvement and inter-agency coordination in the development, implementation and updating of the Comprehensive Plan

Policy 5.1.1 The City shall develop and carry-out an ongoing citizen involvement and inter-agency coordination program in conjunction with the comprehensive planning process of the city.

Comprehensive Plan Amendments

Introduction

The Forest Grove Comprehensive Plan is the primary policy framework used by the City to link land use, economic development, public facilities and key community services. The Comprehensive Plan implements the City's Vision Statement and takes it a step further by establishing the City's expectations for land use and development for a twenty-year period.

The Comprehensive Plan also demonstrates compliance with the Oregon Statewide Land Use Planning Goals, Oregon Revised Statutes, Oregon Administrative Rules, and regional policies related to land use, transportation and other key public facilities.

The Comprehensive Plan is not intended to be a static document and should respond to market needs and evolving community preference for what Forest Grove should and could be. The following section describes the process for revising the plan text including the data, goals, policies and land use map.

Types of Comprehensive Plan Amendments

Generally speaking there are two basic types of plan amendments:

1. Text Amendments; or
2. Map Amendments.

Text amendments serve to update information that serves as the foundation of the plan or removes, revises or adds goals and policies to the plan. In contrast, map amendments change the land use designation for property within the City's planning area. Regardless of type of plan amendment changes to the plan must be based on factual information that addresses the applicable decision criteria identified in the following section.

There are two methods for amending the plan. An amendment is either quasi-judicial or legislative. Amendments to the Comprehensive of Plan Text are processed through a Legislative (Type IV) process. This process is described in detail in Article 1 of the Forest Grove Development Code Article 1. A Type IV plan amendment requires public notice including publication of notice in the local newspaper. A Type IV plan amendment requires public hearings with the Planning Commission and City Council. Comprehensive Plan text amendments must be adopted by City Council ordinance.

Amendments to Comprehensive Plan Map are processed through either a legislative (Type IV) or quasi-judicial process (Type III) depending on whether the map amendment affects a small group of properties or large area. The Type III process is also described in Forest Grove Development Code Article 1. A Type III process requires notice to surrounding property owners, publication of the notice in the local newspaper and public hearings with the

Comprehensive Plan Amendments

Planning Commission and City Council. Amendments to the Comprehensive Plan map will be adopted by City Council ordinance.

Plan amendments may be initiated by the following parties:

- Property owner of record or authorized agent of the property owner of record;
- Contract purchaser;
- City Council;
- Planning Commission;
- City Manager; or
- Community Development Director.

Individuals may submit a request to amend the text of the Comprehensive Plan at any time. The Planning Commission will consider the merits of the proposal. If warranted, the Planning Commission will make a recommendation to the City Council to initiate the amendment process. A recommendation to initiate the amendment process must address the applicable decision considerations identified below.

The City Council may approve a proposed text or map amendment as submitted, approve the proposed amendment with specific changes based on findings of fact, or deny the amendment. Decisions of the City Council are appealable to the Oregon Land Use Board of Appeals.

Decision Considerations

Amendments to the comprehensive plan will be considered by the Planning Commission and City Council based on:

- Consistency with applicable Comprehensive Plan policies;
- Consistency with the Metro Regional Framework Plan;
- Consistency with the Metro Urban Growth Management Functional Plan (Metro Code Chapter 3.07) or Regional Transportation Functional Plan as applicable; and
- Consistency with the Oregon Statewide Land Use Planning Goals

Application Contents

A non-City initiated application for a Comprehensive Plan Map or Text amendment shall be made on forms provided by the City. The plan amendment application shall be accompanied with a deposit to cover processing costs as prescribed by City Council resolution. The application form shall also be accompanied by a narrative with text and supporting maps describing how the proposed amendment complies with the Comprehensive Plan Amendment Decision Considerations identified above.

A public hearing on the proposed amendment with the Planning Commission and City Council will be set once the application is deemed complete by the Community Development Director or designee.

The Community Development Director shall render a decision on application completeness within 30-days of submittal to the City. Rejection by the Director for incompleteness shall be based solely on failure to address the development standards or supply information required for the application. Rejection shall not be based on differences of opinion as to quality or accuracy. Acceptance indicates only that the application is ready for review.

Application Submittal Checklist

- _____ City of Forest Grove Land Use Application
- _____ Comprehensive Plan Amendment Filing Deposit
- _____ Supporting Narrative including Text and Supporting Maps

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Chapter 3

Community Sustainability

Introduction

The term sustainability addresses many facets of community life. To some people sustainability means minimizing human impacts on the natural environment. To others sustainability means having a job and being able to meet financial obligations. To some sustainability means having equal access to healthy food options. In general, sustainability can be summed-up as follows: where the natural environment, economy, social equity, and individual needs intersect. How we as a society meet these needs, now and in the future, determines how sustainable we are as a community.

A common definition of sustainability was developed by the United Nations World Commission on Environment and Development often referred to as the Brundtland Commission. The commonly quoted definition of sustainable development is:

"[D]evelopment that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Promoting a sustainable community is an ongoing goal of the Forest Grove City Council. To address this goal the City formed an ad-hoc sustainability committee in 2011. To focus their efforts the sustainability committee drafted the following mission statement:

The people of Forest Grove are committed to improving the quality of life in our community by providing stewardship of our economic, social, environmental and cultural resources in a manner that is equitable for all present and future generations.

The City of Forest Grove recognizes its responsibility to:

- *Provide efficient, equitable and responsible access to and use of social, economic and natural resources;*
- *Utilize resources cost effectively while ensuring they are used no faster than they can be replenished through natural systems;*
- *Assure the benefits and costs of society are equitably distributed throughout the community;*
- *Consider the long-term environmental, economic and social impacts of our actions;*
- *Promote education and awareness of the benefits of sustainable practices to enhance the community;*
- *Support citizens, organizations, businesses and neighborhoods both within and outside the community to invest in sustainability and continually improve their practices and environments; and*

Community Sustainability

- *Prioritize long-term needs over short-term gains to ensure that the resources necessary to sustain life are available now and in the future.*

The committee met regularly over the course of two years to craft goals and strategies for energy and green building, local food production, materials management, natural resources, social equity, transportation and planning. This element of the Comprehensive Plan incorporates the work of the ad-hoc sustainability committee.

The comprehensive plan and sustainable development go hand-in-hand. The reason for this is quite evident since the plan greatly influences the community's environmental and social fabric through land use. For example, a plan determines how efficiently land is used and whether future growth is accommodated within the established urban growth boundary. This in turn influences opportunities for social interaction and a household's ability to afford the purchase price of a home in our community. On its surface, many of the topics in the comprehensive plan may seem unrelated; however they all play a critical role in determining whether or not we as a community meet our needs with the foresight to not compromise the ability of future generations to meet their needs.

The City's Vision Statement is replete with references to community sustainability consistent with the concept of civic ecology. Each element of the comprehensive plan has an important role in furthering the sustainability principles contained in the Vision Statement. These principles include:

- A community that is recognized for its commitment to conserve, preserve, protect and restore our natural assets;
- Planning that considers and accommodates both the desires and needs of all community members to ensure that their quality of life and prosperity;
- A community in harmony, bound by commonly shared respect for its residents, natural resources, economic vitality, and its active role in a global society.

In essence, the Vision Statement promotes a sustainable Forest Grove - a complete community, where local residents have opportunities to shop near where they live, work close to home, and use a variety of transportation options. A sustainable Forest Grove promotes local food production including community gardening. A sustainable Forest Grove also encourages partnerships and collaborations to encourage the sharing of environmental resources and to promote opportunities for localized neighborhood scale energy production.

To further the sustainability principles contained in the Vision Statement the concept of sustainability is woven throughout this plan. For example, the Land Use Element promotes the idea of creating complete neighborhoods where residents have an opportunity to shop and get services close to home. The Land Use Element also promotes opportunities for more housing to increase the vitality of the Forest Grove Town Center. Together these initiatives should promote sustainability by encouraging the efficient use of land and reduce the need to drive long distances to meet daily needs. This will help the City achieve objectives for reducing greenhouse emissions a possible contributor to climate change.

The Housing Element also supports sustainability by promoting a diverse community. This is achieved by encouraging housing types suitable to a variety of households including single persons, large and small families, retirees and persons in need of extra care. A variety of housing types helps contribute to financial sustainability of the community and diverse population contributes to social interaction.

The Urbanization Element promotes the cost-effective extension of public services and the efficient delivery of services. This is achieved through annexation and other urbanization tools.

The Transportation Element supports a balanced transportation system accommodating pedestrians, bicyclists, transit riders and drivers. The Transportation System Plan promotes roadway design to minimize environmental impacts.

Sustainability Guiding Principles

The organization ICLEI (International Council for Local Environmental Initiatives) comprised of local governments for sustainability developed the STAR Community Index. The Index includes 81 sustainability goals and 10 guiding principles. The STAR Community Index provides a framework for promoting healthy, inclusive, and prosperous communities.

STAR guiding principles for sustainability include reducing local contributions to the accumulation of natural materials, reducing local contributions to the concentration of synthetic substances, reducing the ongoing physical degradation of nature and avoidance of undermining our ability to meet basic needs.

This can be achieved by:

1. Compact and complete communities;
2. Interconnected land use;
3. Greenhouse gas reduction;
4. Energy use; and
5. Climate adaptation.

Establishing a minimum level of performance in each of these areas is crucial to meeting long-term sustainability objectives.

Greenhouse Gas Emissions Inventory

The City of Forest Grove prepared a local greenhouse gas emissions inventory for City operations in 2012 to guide future efforts on sustainability. This inventory will serve as a baseline against which the City's progress in reducing emissions can be demonstrated. The greenhouse gas inventory follows the protocol established by the ICLEI for preparing emissions inventories.

The table below shows Co2e greenhouse gas emissions by sector for City operations. Emissions are estimated based on the 2009 version of ICLEI's analytic software. Sectors evaluated including building and facilities, vehicle fleet, streetlight and traffic signals, water delivery facilities, employee commuting, contracted services, and government generated solid waste. The data indicates that building and facilities comprise approximately 31% of the greenhouse gas emissions based on the sector analysis.

Sector	Metric Tons Co2e
Building and Facilities	1,052
Vehicle Fleet	564
Streetlights and Traffic Signals	506
Water Delivery Facilities	170
Employee Commute	128
Contracted Services	600
Government Generated Solid Waste	4
Totals	3,023

Source: City of Forest Grove, Community Development Department

The following table shows Co2e by energy source. Energy sources include electricity, natural gas, diesel, refined gasoline and other petroleum based energy sources. Electricity accounts for approximately 56% of greenhouse gas emissions based on source of energy used for municipal operations.

Source	Metric Tons Co2e
Electricity	1,700
Natural Gas	2
Diesel	755
CNG	1
Gasoline	471
Off Road Diesel	54
Off Road Gasoline	11
Waste	4
Fuel Oil (#1 2 4)	26
Totals	3,023

Source: City of Forest Grove, Community Development Department

Further analysis of greenhouse gas emissions will guide efforts leading to the development and implementation of a sustainability strategic plan for the City. This plan will promote a more sustainable Forest Grove. The sustainability plan will include action steps to promote reducing greenhouse gas emissions. Through these efforts the City will be in a much better position to adapt to the potential impacts resulting from a changing climate.

Sustainability Vision

The Forest Grove Ad-hoc Sustainability Committee developed a vision statement for each topic area in the Forest Grove sustainability Action Plan which captures the essence of Forest Grove as a community. This sustainability vision states:

1. Forest Grove will become a leader in the support of green building practices and the promotion of energy and natural resource conservation.
2. Forest Grove will be a thriving food community in which all residents have the opportunity to grow, prepare and consume nutritious local food in order to support the health of the land and its people.
3. Forest Grove will be a city that focuses on the recapture, reduction, and elimination of its material stream to enable a high quality of life for all residents.
4. The residents of Forest Grove demonstrate good stewardship of our natural resources by preserving the health of our watershed, forest, air and green space for future generations.
5. Forest Grove is a place that welcomes and supports equitable and sustainable opportunities for all community members by providing the means for human needs to be met.
6. Forest Grove is community with a safe, affordable, reliable, sustainable, and connected transportation system this is energy efficient while supporting other transportation modes.

Community Sustainability

Sustainability Vision

The sustainability vision statements provided above serve as the basis for specific goals to achieve and policies to implement as part of the Comprehensive Plan. The goals and policies are presented below.

Community Sustainability Goals

Land planning and design are important aspects of local efforts to promote long term community sustainability. The goals and policies identified below are those that most directly impact land use policy.

1. Support the function and identity of neighborhoods by encouraging communication, strengthening community bonds, local participation and interaction, and enhancing sense of place through design¹.
2. Encourage involvement of underrepresented groups in civic affairs.
3. Promote financial sustainability through a compact and land efficient development pattern intended to reduce long term costs for providing municipal services.
4. Reduce barriers to affordable housing by advocating for an inventory of a minimum 20-year supply of land for needed housing types when Metro considers urban growth boundary expansions.
5. Promote economic prosperity by providing a twenty-year supply of land for employment needs and by improving access to local employment opportunities.
6. Foster excellence in the design of public and private development projects to minimize environmental impacts, maximize financial efficiency, optimize social equity and benefits, and improve public health².
7. Promote interconnected land uses that encourage diverse, accessible, and proximate land uses that promote active living and access to vital services including employment, education, and healthy food³.
8. Create complete neighborhoods, through land use regulations, with housing, recreational opportunities, retail, services and employment nearby.
9. Foster the preservation, construction and maintenance of an adequate supply of healthful, affordable, resource-efficient, and inclusive housing⁴.
10. Promote the preservation and reuse of historic resources, including buildings, structures, sites, neighborhood districts and cultural landscapes to assist in the retention of local, regional and national

¹ Adapted from ICLEI, Star Community Index, Sustainability Goals and Guiding Principles, October 2010.

² ICLEI, Star Community Index, Sustainability Goals and Guiding Principles, October 2010.

³ ICLEI, Star Community Index, Sustainability Goals and Guiding Principles, October 2010.

⁴ ICLEI, Star Community Index, Sustainability Goals and Guiding Principles, October 2010.

history and heritage, reinforcement of community character, and conservation of material resources⁵.

11. Encourage the clustering of residential development in the David Hill area to reduce impacts to the environment and minimize degradation of views from lower elevations especially the Town Center.
12. Through land use policy reduce the amount of greenhouse gas production in the community.
13. Update the Development Code to allow for neighborhood and building scale local energy production projects.
14. Promote opportunities for community gardens within neighborhoods.
15. Reduce impacts on the Forest Grove solid waste transfer facility and regional landfills by supporting efforts to collect material which is difficult to recycle.
16. Increase the amount of urban forest tree canopy while planting species adapted to this area.
17. Encourage water conservation efforts such as installation of gray water systems in buildings, construction of bio-swales, and use of low impact design techniques to slow storm water runoff.
18. Increase the amount of park land and natural areas serving the community.
19. Support the restoration of natural areas such as Fern Hill Wetlands and Thatcher Woods.
20. Support education efforts on the benefits, care, and maintenance of trees for aesthetics, shade and carbon storage.
21. Promote efforts to improve access to housing meeting household needs.
22. Support efforts to increase transit accessibility throughout the community by establishing minimum development densities necessary to provide for cost-effective transit service.
23. Promote a balanced transportation system increasing opportunities for bicycling and walking throughout the community.
24. Anticipate the possibility of local in-migration due to the relocation of individuals and families impacted by a changing climate.
25. Develop and implement policies recognizing that climate change includes two components: mitigation and adaptation.

⁵ ICLEI, Star Community Index, Sustainability Goals and Guiding Principles, October 2010.

Community Sustainability

Policy Measures

1. Participate in the preparation of a comprehensive community sustainability plan for City operations as well as the broader community. The community sustainability plan should involve local organizations, institutions and community stakeholders and address community systems, governance, and desired sustainability outcomes.
2. Prepare and adopt a citizen involvement program for land use matters to ensure the involvement of underrepresented groups in civic affairs. The citizen involvement program should be based on a demographic analysis of the City's population.
3. Periodically review, and if needed amend, the Comprehensive Plan and development regulations to foster community sustainability initiatives.
4. Evaluate the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) for Neighborhood Development program as a framework for assessing the social, economic and financial sustainability of new residential subdivisions.
5. Establish a program to provide incentives for use of low impact design techniques such as bio-swales, rain gardens, porous pavement, green streets, or other generally accepted techniques in new developments.
6. Evaluate local partnerships for establishing Eco-Districts⁶ as tool for implementing sustainability initiatives.
7. Support the urban forest management program through land use regulations intended to retain and expand the urban forest canopy.
8. Promote local food production through land use policy by encouraging community gardens in neighborhoods. Study using City parks and land owned by religious organizations for neighborhood community gardening efforts.
9. Support transportation connectivity through the Transportation System Plan, Engineering Design Standards and Development Code requirements to reduce vehicle miles traveled and encourage bicycling and walking to destinations.
10. Evaluate the feasibility of allowing small scale local energy production such as solar or wind in neighborhoods.

⁶ An Eco-district is a neighborhood or district that has committed to achieving ambitious sustainability performance goals guiding district investments and community action, and tracking the results over time. (Seltzer, Ethan, et. al., Making Eco-Districts, Concepts and Methods for Advancing Sustainability in Neighborhoods, September 2010, Portland, Oregon, p. 9).

11. Ensure that needed housing for all segments of the population in the community is met through land use policy.
12. Monitor population migration trends due to climate change impacts to anticipate potential changes in population growth during the 20-year planning period.
13. Evaluate and adopt appropriate development standards to mitigate climate change impacts resulting from severe seasonal storms, slope instability, higher temperatures and increased fire danger at the urban/wildland interface.

Chapter 4

Land Use

Introduction

The land use element of the comprehensive plan establishes a long-term (usually 20 years) framework for the urban form of the city – where houses, businesses, schools, and other activities are placed within the urban growth boundary. This element describes the existing land use pattern of the city and possible future land use scenarios based on population and employment growth projections. In addition, the element supports the goals, policies and implementation measures⁷ affecting land use.

It is important to note that the American economy has experienced a period of uncertainty that began in 2008 with the housing lending crisis. The economic volatility over the past two to three years makes it difficult to forecast land needs based on past trends with any degree of certainty. Given this uncertainty land needs shown on the comprehensive plan map are based on the medium growth scenario described in the Economic Opportunity Analysis prepared in 2009. Using the medium growth scenario should ensure that there is enough land designated on the comprehensive plan map to meet needs during the next twenty-years. The medium growth scenario assumes a 2.3% average annual rate of population growth which seems somewhat optimistic given economic conditions at the present time.

The land use element complies with the requirements of Statewide Planning Goal 2: Land Use. Goal 2 requires that local jurisdictions establish a land use planning process and policy framework as a basis for all decision and actions related to the use of land and to assure an adequate factual base for such decisions and actions. The factual basis includes inventories of existing and future socio-economic trends, assessment of land capacity, adequacy of public facilities and documentation of the roles and responsibilities of governmental units.

The land use element is divided into several sections. Sections include an overview of significant changes since adoption of the original comprehensive plan in 1980 and subsequent updates in 1985 and 1991, summary of existing conditions, description of future projections, a statement of land use goals, policies, and implementation actions and finally an illustration of land use alternatives and preferred land use scenario.

The land use map shows the general distribution of current and future land activities within the urban growth boundary. In addition, the land use element of the comprehensive plan establishes goals and policies for reaching the community's vision of how Forest Grove should develop over the next twenty years.

⁷ Implementation measures are the means used to carry out the plan. There are two types of implementation measures: (1) Management Implementation Measures – ordinances, regulations or project plans, and (2) Site or Area Specific Measures – permits, construction of public facilities or provision of services.

Comprehensive Plan Consistency

It is very important to ensure that various elements of the comprehensive plan are consistent with one another and are mutually supportive. The Land Use Element of the Comprehensive Plan must provide the framework to achieve the goals and objectives of all aspects of the Comprehensive Plan including the Housing, Economic Development, Transportation and Urbanization elements of the plan. Furthermore, the Public Facilities element must align with the land uses shown on the Comprehensive Plan map.

Designating land for commercial or employment use is of little value to the community if public services cannot be provided to support the level of development called for in the plan or if public services are cost prohibitive to provide. A discussion follows providing an indication of how the various elements of the comprehensive plan relate to the Land Use element.

The **Housing Element** fulfills the requirements of Statewide Land Use Planning Goal 10: Housing. This element of the Comprehensive Plan provides a basis for establishing housing needs – both short- and long-term. Housing needs are assessed based on the socio-economic and demographic characteristics of the present population as well as assumptions about future needs based on a *coordinated twenty-year population forecast*⁸ for the City of Forest Grove.

The Land Use Element must set aside enough land on the Comprehensive Plan map to accommodate identified twenty-year housing needs contained in the Housing Element and Economic Opportunity Analysis. In addition, land identified on the Comprehensive Plan map must provide sufficient opportunity for a variety of housing types available at price levels proportionate with the financial resources of individual households. That is to say, the City must provide opportunities for housing meeting the needs of low-, moderate- and higher income households that would like to live in the community.

There is a significant role for the City to ensure that there is an adequate supply of land for housing, as well as other land uses, to accommodate expected growth within the city's planning area. Such land is identified on the Comprehensive Plan map. An adequate supply of land is necessary to avoid imposing supply constraints that inadvertently increases the price of land and increases the cost of housing.

Once land is identified on the Comprehensive Plan map the City establishes policies, through the Comprehensive Plan, to guide how land is developed. Such policies could include setting minimum and maximum development densities, establishing incentives to encourage the construction of affordable housing in the community and identifying locations factors for suitable development sites. Although the City identifies land for development and establishes policies for land use it's important to recognize that the City does not provide or construct housing. Most of the housing in the community is built by private contractors working on behalf of private developers. Developers provide housing based on a number of factors including the characteristics of the local economy, availability of adequate building sites, price of land, the cost of construction, financing, degree of risk and profit potential. In some cases developers might not construct needed housing due to lack of available financing, high risk, or lack of return on investment. This is especially true for very affordable housing with low sales prices or rent levels. In this case, the City should look for ways to promote opportunities for affordable housing through community development grants, sale of surplus property for affordable housing or incentives such as fee or development charge waivers or reductions.

The **Economic Development Element** fulfills the requirements of Statewide Land Use Planning Goal 9: Economic Development. Locations for employment and commerce are shown on the Comprehensive Plan map. The amount of land shown is based on the data and analysis contained in the

⁸ State law (ORS 195.025) requires that Metro prepare a coordinated population forecast with local governments inside the Portland regional urban growth boundary. Metro updates the population forecast approximately every four to five years as part of updating the Regional Transportation Plan and the Urban Growth Report. The population forecast relies, in part, on an assessment of residential and employment land capacity to distribute population and employment growth throughout the region. Land capacity is based on a buildable land inventory taking into account the amount of vacant and redevelopable and infill land that is unconstrained by natural features or prior development.

City's Economic Opportunity Analysis. The Economic Opportunity Analysis also provides the basis for the goals and policies included in the Economic Development Element.

The Comprehensive Plan takes into account the social, environmental, energy, and economic impacts of the land use plan on the community. With respect to the social aspect of economic development consideration of impacts includes promoting employment opportunities matching the jobs skills of residents, providing opportunities for enhancement of job skills, and encouraging higher wage employment opportunities in Forest Grove. Environmental impacts include ensuring that development does not impair natural resources. Energy considerations include promoting energy efficiency, sustainable development practices, use of alternatives to high carbon fuels and reducing commute distances. Economic impacts include building on the economic strengths of Forest Grove, diversifying the local economy and promoting employment opportunities in Forest Grove to reduce the need to commute long distances for work.

The **Transportation Element** addresses requirements of Statewide Planning Goal 12: Transportation. Goal 12 promotes a safe, convenient and cost-effective transportation system. The transportation system includes streets to accommodate vehicle travel, bike lanes, sidewalks and associated traffic control devices. Goal 12 gives special attention to the needs of individuals with limited transportation options including persons with limited mobility and households without access to automobiles.

Land use and transportation are inescapably linked. The relationship between land use and transportation can be illustrated by the impact land use has on the design of transportation facilities. For example, a proposed large shopping center will likely generate significant amounts of traffic. This increase in expected traffic may require street improvements such as adding an additional lane for traffic to accommodate turning or traffic signals to improve safety.

The transportation system also influences how land is used. One reinforces the other. It goes without saying that the transportation system provides access to property. Access could be in the form of a street, river, or pathway. Without some kind of access the ability to develop land is severely limited unless access is improved. The quality of access influences the value of the property. Development sites in areas with very good access may receive a premium in the form of higher rent or sales prices. Only certain types of land use activities may be able to pay these higher prices. This is why the most intensive retail activities tend to take place in central locations with high quality transportation connections.

The Transportation Element identifies the planned transportation network necessary to support land use activities identified on the Comprehensive Plan map. Therefore, the Land Use Element and Transportation Element must support each other and be consistent.

The **Urbanization Element** addresses Statewide Planning Goal 14: Urbanization. The intent of Goal 14 is to ensure that local comprehensive plans establish a framework for the orderly and efficient use of land set-aside for urban development. The Urbanization Element implements Goal 12 at the local level by establishing goals and policies intended to ensure enough land is planned and zoned within the urban growth boundary to accommodate expected growth during the twenty-year time horizon of the plan. The Comprehensive Plan map shows specific land use designations used to guide zoning of unincorporated land annexed into the city.

Guiding Principles

Efficient Use of Land

The land use element is based on several fundamental principles. First, the land use element emphasizes the efficient use of land within the urban growth boundary. Efficient use of land within the urban growth boundary serves to reduce the need to expand the UGB to accommodate future growth. Serving land outside of the current UGB with public services is expensive, takes agricultural land out of production, and reduces the likelihood that passed over vacant land within the UGB will develop at higher densities.

Using land efficiently within the urban growth boundary also reduces the need to travel long distances for work, school, shopping and other essential services. Minimizing travel distances reduces energy consumption, improves health by encouraging walking and bicycling and generally saves money for individuals and public service providers.

Complementary Land Uses

The second principle used to develop the land use element has to do with providing opportunity for placing complementary uses close together. Providing complementary uses near residential areas increases the likelihood for walking or bicycling to meet daily needs. This in turn reduces the areas carbon footprint⁹ and helps the City address the issue of climate change including meeting regional and state targets for the reduction of greenhouse gases.

Strengthen Downtown Forest Grove

The third principle addresses the Forest Grove Town Center. The land use element establishes policies to strengthen the Forest Grove Town Center as the focal point of the community. The Forest Grove Town Center is included in the Metro Region 2040 land use concept. Town centers are areas with ample urban style amenities and mixture of uses served by good public transit service.

⁹ A **carbon footprint** is "the total set of [greenhouse gas](#) (GHG) emissions caused by an organization, event, product or person."^[1] Greenhouse gases can be emitted through transport, land clearance, and the production and consumption of food, fuels, manufactured goods, materials, wood, roads, buildings, and services.^[2] For simplicity of reporting, it is often expressed in terms of the amount of [carbon dioxide](#), or its equivalent of other GHGs, emitted. (From wikipedia.com)

Land Use

Guiding Principles

Neighborhood Character

Some areas of the community are zoned to allow higher development density than is characteristic of the historical land use pattern. While this promotes to encourage the efficient use of vacant or underutilized land it could serve to undermine a neighborhood's identity and character. A common principle of urban design is to respect the elements of a neighborhood that provide a sense of place that establishes a neighborhood's character and identity. Such elements include street width, presence of mature trees, wide sidewalks, housing style and placement of a building on a lot. The Land Use Element of the Comprehensive Plan strives to preserve the identity of established neighborhoods by reducing development densities in areas where neighborhood preservation is important to the community.

To balance possible reductions in development density in specific areas of the community the plan identifies areas where development density could be increased. Areas where development density could be increased include the Town Center and mixed-use focus areas (nodes) along the Pacific Avenue/Oregon Highway 8 corridor. Higher development density within the Town Center will support businesses activity, take advantage of existing public services, promote the use of transit and encourage development of vacant lots. Higher density development along the Pacific Avenue/Oregon Highway 8 corridor will also encourage the use of transit, promote land efficient development, and encourage mixing activities where only commercial uses exist.

The land use element is divided into general land use policies, residential, commercial, industrial, parks and recreation, and institutional land uses. Separation of issues is used to facilitate presentation of the plan. However, decisions about land use should be made taking into to account the inter-relatedness of land use activities as well as the long term consequences of land use decisions including impact to the economy, environment and long term needs of the community.

Policies contained in the land use element also affect the housing, economic development, urbanization, natural resources, and public facilities elements of the comprehensive plan.

Changes since Plan Adoption

The Forest Grove community experienced significant change since adoption of the Comprehensive Plan in 1980. The population of Forest Grove has grown from 11,500 to 21,000 persons; the Highway 47 bypass has been completed; the economy of western-Washington has been transformed with the maturation of the Silicon Forest; the Metro Region 2040 growth concept was adopted with emphasis on centers and corridors; the MAX light rail was constructed from Portland to Hillsboro providing additional transportation options for Washington County residents. Martin Road has been improved providing a better connection between Forest Grove, Highway 26, and Hillsboro.

Emerging Issues

Another significant change since adoption of the comprehensive plan is the emerging consensus that the climate is changing. The State of Oregon adopted aggressive targets to reduce carbon emissions affecting the climate. The targets are being integrated into regional planning efforts. This comprehensive plan recognizes climate change and the need to address issues affecting the concentration of greenhouse gases in the atmosphere.

An unprecedented regional effort to establish urban and rural reserves has been completed. The City of Forest Grove participated in this effort. The urban reserves include lands intended to meet the land use needs over the next fifty years. Rural reserves include agricultural lands that will be off limits to urbanization during the next fifty years.

Three urban reserve areas are located near Forest Grove. These include the Purdin Road (Urban Reserve 7B), David Hill (Urban Reserve 7A) and the south industrial urban reserve (Urban Reserve 7E). Future concept planning will be necessary for each of these areas prior to inclusion into the urban growth and annexation into the City of Forest Grove.

Sustainability is another emerging issue. With roots in the ecology movement of the 1960s and 1970s, sustainability has gained momentum as a way to address climate change and the interrelatedness of the environment, economy and community needs. Sustainability addresses the interrelatedness of environmental, economic and social needs of the community. Sustainability also provides a framework for long-term continuity by explicitly recognizing possible long term consequences of decisions made today. Principles of sustainability are embedded throughout the comprehensive plan.

Intergovernmental Coordination

Statewide Planning Goal 2 requires the consistency between local comprehensive plans and other city, county, state and federal, and special district plans and actions related to land use. Such plans include the Metro Regional Framework and Functional Plans, Regional Transportation Plan, Regional Solid Waste Plan, Clean Water Services Plan. The comprehensive plan is also coordinated and consistent with the Forest Grove Water Master Plan, Sewer Master Plan, Transportation System Plan, and Parks and Recreation Master Plan.

Development of the comprehensive plan was coordinated with the following agencies:

- Metro (compliance with Regional Framework and Function Plans);
- DLCD (compliance with statewide land use planning goals);
- Washington County;
- City of Cornelius;
- City of Banks;
- City of Gaston;
- Community Planning Organization 15;
- Business Oregon (economic development impact);
- Oregon Department of housing and community services (affordable housing);
- Forest Grove Planning Commission;
- Forest Grove Economic Development Commission; and
- Forest Grove City Council

Plan Designations

Residential

The designation of residential land within the urban growth boundary is shown on the adopted comprehensive plan map. As identified on the map, these residential designations satisfy:

1. Identified residential land needs for the next twenty years;
2. The goals and policies identified by the City;
3. The location requirements for residential land;
4. The location of vacant buildable land identified as being suitable for residential land use;
5. Requirements of the Metropolitan Housing Rule (OAR 660-007-0035) which requires the City to provide for an overall development density of 8 or more dwelling units per net buildable acre.

Overview of Residential Land Use Concept

The most important determining factors for the particular designation of residential land included the housing need as identified in the Economic Opportunity Analysis, existing pattern of development, the existing and planned transportation system, desire to support a variety of transportation modes and the cost-effectiveness of providing public services.

Single Family Residential Designations

The A-Medium plan designation corresponds to the R-5 single family residential zone district. This designation is intended for development of housing at a target density of 8.71 dwelling units per net acre. Detached single family housing is the predominant housing type in this zone. Accessory dwelling units¹⁰, duplexes and attached housing types are also permitted subject to the density limitations of the zone. A limited range of compatible non-residential uses such as parks and schools are also permitted or allowed with conditional use approval. The A-Medium designation applies to the historic residential neighborhoods in the city to reflect the historic platting patterns of early Forest Grove. There are approximately 170 acres of A-Medium land designated on the comprehensive plan map.

The B-Standard plan designation corresponds to the R-7 single family residential zone district. The R-7 zone is intended for development of housing at a target density of 6.22 dwelling units per net acre. Detached single family housing will be the predominant housing type in this zone. Accessory dwelling units, duplexes and attached housing types are also permitted or allowed with conditional use approval. There are approximately 790 acres of B-Standard land designated on the comprehensive plan map.

¹⁰ Accessory dwelling units are defined in the Article 12 of the Development Code as one or more rooms with private bath and kitchen facilities comprising an independent, self-contained dwelling unit within or attached to a single family dwelling.

Land Use

Plan
Designations

The C-Low plan designation corresponds to the R-10 single family residential zone district. The R-10 zone is intended for development of housing at a target density of 4.35 dwelling units per net acre. Detached single family housing will be the predominant housing type in this zone. Accessory dwelling units, duplexes and attached housing types are also permitted subject to the density limitations of the zone. A limited range of compatible non-residential uses such as parks and schools are also permitted or allowed with conditional use approval. There are approximately 290.7 acres of C-Low land designated on the comprehensive plan map.

The D-Suburban plan designation corresponds to the Suburban Residential (1 unit per acre) zoning district. This district applies to areas within the urban growth boundary above the 440 foot elevation. The 440 foot elevation is significant since land above this elevation is not able to receive municipal water due to system limitations. The Water Master Plan addresses this limitation. The one acre minimum lot size is consistent with state law related to land area necessary for septic tank systems. There are approximately 69 acres of D-Suburban land designated in the land use plan.

New comprehensive plan designations for single-family residential designations are proposed to improve consistency with the Development Code. The new designations correspond with the planned target development densities of the associated zoning district. Descriptions of the plan designations are provided below:

Previous Plan Designation	Proposed New Designation	Target Density
A-Medium	R-8.7	8.7 dwellings per net acre
B-C	R-6.2 or R-4.3	6.2 to 4.3 dwellings per net acre
B-Standard	R-6.2	6.2 dwellings per net acre
C-Low	R-4.3	4.3 dwellings per net acre
D-Suburban	R-1.0	1.0 dwellings per net acre

Plan Designations

Multiple Family Residential

The Medium Density Residential district corresponds to the Residential Multifamily Low zone district. The RML zone is intended for development of housing at a target density of 12 dwelling units per net acre. Small-lot single family housing, duplexes, attached dwellings and small multi-dwelling residences will be permitted housing types subject to the density limitations of the zone. A limited range of compatible non-residential uses such as parks and schools are also permitted or allowed with conditional use permit approval. The RML zone functions as a transition zone between lower density residential zones the higher intensity residential and non-residential zones. The RML designation also encourages land efficient housing options such as townhouses. There are approximately 198 acres of Medium Density Residential land designated on the comprehensive plan map. The Economic Opportunity Analysis indicates no additional need for RML land during the twenty-year planning period. This reflects the current amount of RML land designated on the comprehensive plan map and the existing split between single family and multiple family units.

The High Density Residential district corresponds to the Residential Multifamily High zone district. The RMH zone is intended for development at a target density of 20.28 dwelling units per net acre. Multi-unit residential buildings will be the predominant housing type in this zone. RMH zoning is generally applied near existing or planned transit service and adjacent to commercial or employment districts. The RMH zone also allows for a limited range of non-residential uses to help provide services for residents and enhance the quality of the higher density neighborhood.

High Density Residential development should occur in areas with few environmental constraints that are well served by access and other public services. High density residential development should not be isolated but rather integrated into the surrounding neighborhood. There are approximately 345 acres of High Density Residential Land designated on the comprehensive plan map. The Economic Opportunity Analysis indicates no additional need for RMH land during the twenty-year planning period. This reflects the current amount of RMH land designated on the comprehensive plan map and the existing split between single family and multiple family units.

Previous Plan Designation	New Plan Designation	Location Factors
Medium Density Residential	RML	<ol style="list-style-type: none"> 1. Slope less than 10%¹¹; 2. Carrying capacity of the land given presence of wetlands, soil characteristics, and infrastructure capacity including water, sewer, and transportation. 3. Sites located within ¼ mile of planned or existing transit service; 4. Constructed with single family residential development if approved through Planned Residential Development process.
High Density Residential	RMH	<ol style="list-style-type: none"> 1. Slope less than 10%¹²; 2. Carrying capacity of the land given presence of wetland, soil characteristics,

¹¹ Construction on slopes greater than 10% is not precluded if development is supported by a geotechnical report approved by the city engineer that shows the site is suitable for proposed development.

¹² Construction on slopes greater than 10% is not precluded if development is supported by a geotechnical report approved by the city engineer that shows the site is suitable for proposed development.

and infrastructure capacity;
3. Sites located within ¼ mile of planned or existing transit service;
4. Sites adjacent to existing or planned parks or open space;
5. Sites within ¼ mile of designated employment areas;
6. Constructed with single family residential development if approved through Planned Residential Development process;
7. Creation of nodes to facilitate transit extension.

Plan Designations

Commercial

The Town Center Core district encompasses the traditional downtown core including Main Street. The purpose of this zone is to provide a concentration of retail, office and residential uses in a defined area. Retail or service uses are required on the ground floor, with an emphasis on those uses that serve a walk-in clientele. Office and/or residential uses are allowed and encouraged on upper floors. Design standards for this district requires continuous storefront façade featuring streetscape amenities for the pedestrian. There are 7 acres of land designated Town Center Core on the comprehensive plan map.

The Town Center Core includes several iconic buildings listed on the National Register of Historic Places. A key policy consideration is whether development density should be increased in the Town Center while retaining significant historical buildings and the overall ambience of what makes downtown Forest Grove a focal point for the community.

The Town Center Transition district is established to increase employment and housing opportunities in close proximity to the Town Center Core. A mix of retail, office, light industrial and residential uses are allowed in the TCT zone. Ground floor retail uses are permitted but not required within the Town Center Transition district. Consistent streetscape improvements such as street lighting, wayfinding signage, street trees and sidewalks are encouraged to link the Town Center Transition zone with the Town Center Core. There are approximately 9 acres of land designated Town Center Transition on the comprehensive plan map.

The Town Center Support district is established to increase employment and housing opportunities that complement the Town Center Core. A mix of office, light industrial and residential uses are allowed in the TCS zone. Ground floor retail uses are permitted but not required in the Town Center Support district. Pedestrian and bicycle improvements are encouraged to link the Town Center Support zone with the Town Center Core. There are 23 acres of land designated Town Center Support on the comprehensive plan map.

The Neighborhood Commercial district is established to provide for small to medium sized shopping and service facilities in close proximity to residential neighborhoods. The Neighborhood Commercial district is intended to meet the daily convenience shopping and service needs of the immediate neighborhood. NC districts should be located on arterial or collector streets, preferably at an intersection. NC zones should be spaced at approximately one-half (1/2) mile intervals and each district should be limited to a total size of approximately five (5) acres. There are 0.8 acres of land designated Neighborhood Commercial on the comprehensive plan map.

The Mixed-Use plan designation is established to provide for a variety of retail and office uses near residential neighborhoods. Limited Commercial zones should be located on or bounded by arterial and collector streets to create nodes or concentrations of activity.

The Community Commercial district is established to promote a concentration of mixed-uses – including retail, service, office and residential uses – along the regional transit corridor. The link between land use and transit is intended to result in an efficient development pattern that supports the regional transit system and makes progress in reducing traffic congestion and air pollution. The location, mix and configuration of land uses are designed to encourage convenient alternatives to the auto, a safe and attractive streetscape, and a more livable community. There are approximately 245 acres of Community Commercial land designated on the comprehensive plan map.

The **Transit-Oriented Commercial** plan designation is established to promote retail and office uses integrated with the surrounding neighborhood that is supportive of high capacity transit service. Areas zoned for transit-oriented commercial activities should developed at a density sufficient to generate a critical mass of activities and designed to be walkable with pedestrian and bicycle connections to surrounding residential areas. Off-street parking must be minimized and shared of off-street parking is strongly encouraged.

Previous Plan Designation	New Plan Designation	Location Factors
Central Business District	Town Center Core	Within ¼ mile of existing or planned transit service;
Central Business District	Town Center Support	Adjacent to Primary Core Area; Within ¼ mile of existing or planned transit service;
Central Business District	Town Center Transition	Pedestrian and Bicycle Connections to TCC; Adjacent to TCS; Within ¼ mile of existing or planned transit service;
Neighborhood Commercial	Neighborhood Commercial	Pedestrian and bicycle connections to TCS Adjacent to residential areas Within 1/8 mile of collector street or arterial street intersection;
Commercial Auto	Community Commercial	Maximum site size: 5 acres Adjacent to Pacific Avenue/19 th Avenue couplet or Oregon Highway 8;
New	Transit-Oriented Commercial	Within ½ mile of existing or planned high capacity transit ¹³ service; Level site; Designed to minimize environmental impacts
New	Mixed Use	Areas where a mixture of residential, office and retail uses are appropriate to create complete neighborhoods or provide needed services and housing. Sites tend to be 10 acres in land area or less.

¹³ High capacity transit includes any form of public transit that has an exclusive right of way, a non-exclusive right of way or a possible combination of both. High capacity transit vehicles make fewer stops, travel at higher speeds, have more frequent service and carry more people than local service transit such as typical bus lines. High capacity transit includes options such as light rail, commuter rail and bus rapid transit. (Metro)

Plan Designations

Employment

The comprehensive plan establishes three employment designations separate from the Town Center and commercial designations. Designations include Light Industrial, General Industrial, and Campus Employment. Additional detail about these designations is provided below.

The Light Industrial designation is intended for a wide variety of manufacturing and other industrial uses with controlled external impacts. These types of industries are often involved in the secondary processing of materials into components, the assembly of components into finished products, transportation, communication and utilities, wholesaling and warehousing. Industrial activities occur in enclosed buildings. On a limited basis, supporting commercial and office uses are permitted in the LI zone. There are approximately 127.0 acres of Light Industrial land designated on the comprehensive plan map.

The General Industrial designation is intended for industrial uses that are generally not compatible with residential development because of their operational characteristics. This district is also intended for uses that may require extensive outdoor areas to conduct business activities or for product storage or display. General industrial uses include those involved in the processing of raw materials into refined products and/or industrial uses that have external impacts. The purpose of this district is to permit the normal operations of any industry that can meet and maintain compliance with established state and federal performance standards. The district is intended to contain supportive retail development. Commercial or retail uses that do not primarily serve the needs of people working or living in the employment or industrial areas are prohibited in this district¹⁴. New residential uses are not permitted in the GI zone. There are 388 acres of General Industrial land designated on the comprehensive plan map.

The Campus Employment designation is intended for development of industrial and office parks with a high level of amenity value including landscaping and open space. Typical uses include high technology companies, call centers, research and development firms, and business incubators. Industrial activities typically take place in enclosed structures. The district is intended to contain supportive retail development and business services.

Previous Plan Designation	New Plan Designation	Location Factors
General Industrial	General Industrial	Slope Less than 5%
Light Industrial	Light Industrial	Slope less than 5%
New	Campus Employment	Greater than 25 gross acres; Direct access to arterial streets; Buffered from surrounding residential and agricultural uses.

¹⁴ Policy choice: Should the City allow for limited retail activities in the GI zone such as outlet stores and tasting rooms? A balance is needed to ensure that retail activities are large enough to be commercially viable but not so large as to interfere with other industrial operations. Allowing limited retail activities could support Forest Grove's food processing sector and proximity to specialty beverage producers.

Residential Land Use

Findings

Forest Grove is characterized by historic residential neighborhoods, new subdivisions, assisted living facilities and college dormitories. Residential development makes-up approximately 42% of the land area within the Forest Grove city limits. There are approximately 7,760 housing units within the City. Of this number approximately 2,535 multiple family units and 5,122 single family residential units¹⁵.

The overall residential density in Forest Grove has increased from 5.4 dwelling units per acre in 1976 to 6.3 dwelling units per net acre in 2011. Recent development activity has been constructed at an average density of 8.5 dwelling units per net acre since 2000.

A summary of changes since adoption of the Comprehensive Plan is provided below:

1976 land use inventory

Residential Acres: 668 acres
Residential Density: 5.41 units per acres

2011 land use inventory

Single Family: 1,198 acres
Multiple Family: 153 acres
Residential Density: 6.30 units per net acre

The Issues

Forest Grove is suburbanizing. This is evident by a review of recent subdivision activity and local commuting patterns. A challenge over the next twenty years will be how to ensure that Forest Grove remains a complete community with housing and employment options available to all current and future residents regardless of income.

There's no doubt that new techniques for housing construction will occur. There will likely be additional pressure to build on smaller lots, reuse lots for higher density development and mix housing with jobs. The comprehensive plan and implementing ordinances must be flexible enough to respond to these challenges.

A common approach to land use planning is to separate uses. Research has shown that this results in increased traffic congestion, isolation of neighborhoods and higher costs to provide public services. A business-as-usual approach to residential development is no longer sustainable in an era of tight fiscal budgets, higher energy costs and increasing lack of affordable housing options. The Forest Grove comprehensive plan establishes a framework for responding to these issues.

A complete community requires both housing and jobs. As Forest Grove suburbanizes it will be important to ensure there are adequate employment opportunities for area residents. There are several important benefits to this including reducing commute times and costs

¹⁵ Forest Grove Land Use Inventory 2011

associated with travel. Energy use could be reduced as well production of greenhouse gases and pollutants. Currently the City of Forest Grove has a jobs-to-housing balance of 1.25. A jobs-to-housing balance is an indicator of the number of jobs available in an area in relation to the number of households or housing units. A jobs-to-housing balance of 1.25 indicates a relatively low level of employment opportunities for each household. That is to say businesses in Forest Grove do not currently offer enough local employment to meet the job demand of current residents.

The residential housing market has changed. The economic downturn beginning in 2007 fundamentally changed market conditions affecting housing. The construction of new housing units has slowed considerably while the inventory of vacant units has increased due to foreclosure. Credit markets have tightened making it more difficult to obtain housing financing. It's too soon to know what the impacts of this will be or whether the housing market will rebound and return to a level before the economic downturn.

Factors such as a limited regional supply of land for single family dwellings, employment growth in the high technology sector of western-Washington County, increasing transportation costs and the regional response to climate change will have an impact on land use and development patterns.

The cost of constructing housing is increasing. Many factors affect the cost of housing. System development charges used to recover costs from new development on public systems, cost of building materials, the cost of land, and the cost of financing are all components that contribute to housing cost. Many of these factors are beyond the scope of the comprehensive plan. One area the comprehensive does address is the availability of land. The availability of land directly affects the cost of land. This element of the comprehensive plan identifies a land use concept to ensure availability of land within the Forest Grove portion of the urban growth boundary based on the best available information at the time of plan adoption.

Land Use Policies

The location of housing affects many aspects of our lives. The location of housing determines how far we have to commute to work, where our children play and whether or not we can walk or bicycle to stores and services¹⁶. In addition the amount of land available for development and land use regulations impact the cost of housing. The City of Forest will adopt policies and strategies to respond to identified issues and problems affecting land use. A policy is a general directive statement that identifies the class of actions to be performed; the conditions under which they are to be performed; and the individuals, groups, or agencies by which they are to be performed.¹⁷

Policies and strategies include:

1. Adopt land use map designations for all land use categories based on the findings, goals and policies in the comprehensive plan. Where redevelopment of an existing residential neighborhood is deemed necessary to accommodate other uses, standards shall allow mixing of uses when combined with the appropriate plan review for setbacks, screening, landscaping and compatibility with existing residential uses.
2. Location factors for the placement of multi-family development shall be included in the Comprehensive Plan and updated periodically to reflect changes in development best practices
3. The land use regulations shall provide for clustering of houses, zero lot line construction, and common wall construction.
4. Access to multi-family units through single family areas shall be avoided.
5. The following density standards shall apply in the various residential zoning districts:

Zoning District	Density Standard
Suburban Residential	1.0 dwellings per net acre
R-10	4.35 dwellings per acre
R-7	6.22 dwellings per net acre
R-5	8.71 dwellings per net acre
RML	12.0 dwellings per net acre
RMH	20.28 dwellings per net acre

6. The City shall take into consideration the housing rules of the State Land Conservation and Development Commission when

¹⁶ Additional information about housing related issues is contained in the American Planning Association Policy Guide on Housing available at www.planning.org

¹⁷ The Planning Commissioners Guide, APA, Page 97

Land Use

General Policies

considering plan amendments affecting future development densities or the mix of housing types.

7. Planned residential developments shall allow for density bonuses in order to encourage the use of the planned development process. Measures shall be taken to ensure that density bonuses do not result in greater negative impacts on surrounding neighborhoods.
8. Land designated for single family attached and multi-family developments shall be distributed throughout the city taking into consideration availability of public services, topography and environmental constraints. Preferred locations for medium and higher density residential development include areas within walking distance of schools, parks, commercial areas, or existing/planned transit service.
9. Development regulations shall promote a variety of housing types suitable for owner- and renter-occupants. The Economic Opportunity Analysis indicates a need for 3,859 owner-occupied units and 878 renter-occupied units over the next twenty-years.
10. Ensuring the availability of affordable housing is a priority for the City of Forest Grove. Affordable housing options provided for through planning and development regulations should reflect the documented housing needs of current and future residents of the City.
11. Develop and implement incentives for the construction of affordable housing meeting documented community needs.
12. Amend land use regulations to expand the definition of accessory dwelling units to include units not attached or within an existing residential structure¹⁸.
13. New neighborhoods in steeply sloped areas shall be designed to minimize the impact of views from the broader community.
14. Regulations shall require that new developments pay a proportional share of the cost of capital improvements based on impact to community systems.
15. Prior to redevelopment of manufactured housing parks the City shall identify sites for replacement housing.
16. Adopt development standards to promote compact and cluster residential land use patterns without requiring a planned unit development review process. This could include development standards for court bungalows, zero lot line housing¹⁹, or co-housing²⁰.
17. Prepare and adopt neighborhood plans for areas within the city.

¹⁸ Policy Issue: should the accessory dwelling definition be expanded? If so, what are the implications?

¹⁹ Single family dwellings arranged on individual lots as either detached structures with one or more side walls on a side property line.

²⁰ A planned community composed of private [homes](#) supplemented by shared facilities. Shared facilities may include a kitchen, [dining room](#), [laundry](#), [child care](#) facilities, offices, internet access, guest rooms, and recreational features. (Wikipedia)

Commercial Land Use Policies

Findings

Forest Grove has 127 acres of developed commercial land mostly along the Pacific Avenue/19th Avenue/Oregon Highway corridor and within the Town Center. Commercial land makes-up approximately 4% of the total land area in the City of Forest Grove.

The Forest Grove Economic Opportunity Analysis indicates a potential demand of 97 acres to 142 acres for commercial land over the next 20-years. Medium sized sites comprising 10 acres represents the largest are of demand. In contrast, the City of Forest Grove has nearly 31 acres of buildable commercial acreage remaining within the urban growth boundary. The EOA concluded that Forest Grove is completely lacking any large commercial retail acreage to serve expected demand based on population growth²¹. There are no sites available for commercial development greater than 25 acres for future growth during planning period covered by the Comprehensive Plan.

A potential opportunity site for commercial land is located west of Sunset Drive and south of Highway 47. This site, under single ownership is approximately 23.5 acres in gross land area. Other potential opportunity sites include the area near Watercrest Road and Thatcher Road and David Hill Road and Thatcher Road.

The Issues

Commercial land fulfills two important functions. The first is to serve the retailing and services needs of residents, workers, and visitors. The second function is providing employment opportunities for local residents. An adequate supply of commercial land is necessary to fulfill these needs. The Comprehensive Plan serves to balance the amount of land designated for commercial purposes with expected future demand for commercial enterprises serving Forest Grove and the surrounding area.

The ability for residents to meet needs locally is paramount to a strong and vibrant community. Commercial land use in Forest Grove is located in two distinct areas. The first area is the Forest Grove Town Center. The second area is the Pacific Avenue/19th Avenue corridor. Residents living in newly developed parts of town must drive to go shopping, banking, grab a bite to eat or meet other daily needs. As the city grows over time there will be increased demand for retail services in the northwest part of the community.

Forest Grove needs additional land designated for commercial development. The Forest Grove Economic Opportunity Analysis indicates a need of 66 to 111 additional commercial acres to meet the needs of anticipated population growth through 2030. Unmet commercial retail land need is mostly concentrated in medium sized sites followed closely by larger retail commercial uses. Opportunities for commercial retail development are especially needed in the northern and western parts of the community. Establishing commercial uses in these areas will serve to reduce the need to travel to the Pacific Avenue corridor for shopping and services.

The Community Commercial Zone does not encourage nodal development. The 2005 Commercial Corridor Study recommends the development of mixed-use nodes along the commercial corridor. Nodal development promotes more efficient use of land and potentially reduces

²¹ Forest Grove Economic Opportunity Analysis (2009), page 53

traffic congestion. The community commercial zone applies to all properties fronting Pacific Avenue and 19th Avenue east of Cedar to the city limits line. While the Community Commercial zone allows for residential development the zone does not specifically identify specific areas for mixed-use development. A new development zone should be created to focus the desired type of development within node areas. Other possible strategies include identifying nodal areas in the Transportation System Plan, constructing supportive road improvements or providing development incentives.

Commercial Office The 1980/1985 Comprehensive Plan identified conflicts between commercial and residential land use in the Community Commercial area located in two areas: on the west side of B Street near Pacific Avenue; and between Douglas and Hawthorne and south of 19th to Maple Street. The 2005 Commercial Corridor study recommended a small scale commercial district in this area with a mixture of residences, small stores and offices. This district should retain the lower intensity commercial character of the area created by single family residences in the area.

Town Center

Downtown Forest Grove is designated as a Town Center in the Metro Region 2040 land use concept. A Town Center is smaller in scale than a Regional Center. The closest Regional Center to Forest Grove is downtown Hillsboro approximately 6 miles to the east.

Town Centers are easily accessible by pedestrians and are connected by good transit service. Town Centers include a high level of urban amenities such as full service grocery stores, restaurants, coffee shops, bakeries, and delis to name a few.

The Forest Grove Town Center contains 107 gross acres and functions as the cultural and service center for Forest Grove and the surrounding area. The center has 991 residents (not counting students), 1,326 employees and 460 dwelling units²². The Town Center is generally characterized by two- and three-story buildings placed adjacent to the sidewalk. While there are a number of underutilized properties, including several parking lots, the Town Center also has several buildings listed on the National Register of Historic Places. This historic character of the Town Center is part of the ambience of the Town Center that makes it the primary location for community festivals and events.

Retail Corridor

The Pacific Avenue/19th Avenue area is designated as a corridor by the Metro Region 2040 land use concept. The Metro Regional Framework plan describes corridors as having a lower development density than town centers. The Forest Grove corridor has developed with an auto orientation. There is high level of traffic and few crosswalks making pedestrian travel difficult.

The Region 2040 land use concept promotes nodal development along corridors with medium to high density housing and retail uses. Nodal development is characterized by a series of small centers at major intersections or other locations along an arterial road that has high quality pedestrian amenities, good connections to adjacent neighborhoods and good transit service. The ideal land use pattern is one with rowhouses, duplexes, and one- to three-story office and retail buildings.

In 2005, the Community Development Department completed a study of the Pacific Avenue/19th Avenue corridor. The corridor study contains goals and objectives for the future development of the corridor. The corridor contains a significant amount of vacant land and vacant or under-utilized buildings. The corridor study recommends a transition to nodal development pattern and an increase in the number of housing units along the corridor.

²² State of the Centers, Metro, May 2011

Objectives

1. Distribute commercial activity throughout the city to serve existing and planned residential or employment areas.
2. Designate on the Comprehensive Plan map at least 100 acres of land for additional commercial development over the next twenty-years *including* 30 acres for large commercial sites (over 20 acres in area), 45 acres for medium (5 to 20 acre) sites, and 25 acres for small (5 or fewer acre) sites. This land should be distributed throughout the urban growth boundary, in appropriate locations, to serve new and existing neighborhoods.
3. Land designated for commercial use shall have a slope of 5% or less, space to accommodate a variety of services and have availability of full urban services.
4. Land designated for commercial use must be suitable for development taking into account environmental constraints and topography, have direct access to arterial or collector streets, be accessible to employment, residential or recreational areas that are within walking distance (generally ½ mile) and be designed to act as a focal point for surrounding neighborhoods.
5. Designate commercial/mixed-use nodes along the Pacific Avenue/19th Avenue Corridor consistent with the findings contained in the 2005 Commercial Corridor Study.
6. Implement development standards to promote transit-oriented land use within walking distance of planned high capacity transit corridors.
7. Establish a commercial office zoning designation to promote office and professional service activities throughout the city.
8. Implement development standards to ensure the preservation and the integrity of single family residential homes converted to office or shops in the Pacific Avenue/Hawthorne Street area.
9. Priority should be given to retrofitting single use commercial and retail developments into walkable, mixed-use areas.
10. Encourage improvement of the Town Center by cooperating with the Downtown Business Association.
11. Provide standards for screening, access, location, circulation, parking, landscaping, density, and scale for both commercial and multi-family uses to reduce conflicts between adjoining uses and protect the livability of residences.
12. The Comprehensive Plan Map and corresponding zoning standards shall provide for commercial development opportunities serving newly developing areas in the City.
13. Require that proposed development along arterial streets make provision for limiting access to its site by sharing curb cuts with adjoining property at such time as the adjoining property is developed.
14. Improve Adopted standards related to landscaping, access, signing, utility locations and building orientation which minimize the negative features of commercial strip development based on best practices.

Designation of Commercial Land

1. Designate at least 10 acres of commercial land in northwest Forest Grove to meet the expected retailing needs of developing areas of the community;
2. Create and implement the commercial land use designations;
3. Designate the area between Cedar, Hawthorne, 21st Avenue and 19th Avenue as Commercial Village;
4. Designate the area west of B Street to E Street and 19th Avenue to Pacific Avenue as Commercial Village.

Industrial Land Use Policies

The Issue

The economy of Forest Grove has changed significantly since adoption of the Forest Grove Comprehensive Plan in 1980. Agricultural processing and forest industries have been on the decline.

The Forest Grove economy is characterized by education and healthcare services and one high technology company. Employment in healthcare services has been relatively stable over the past five years. The majority of healthcare employment in Forest Grove is in nursing and residential care facilities.

Forest Grove has challenges with respect to recruiting high technology manufacturing. Transportation is the most significant challenge.

Findings

Information about developed industrial land and general composition of the workforce is contained in the Economic Opportunity Analysis. A summary of land absorption for various activity types consistent with the Economic Opportunity Analysis is provided below. The baseline growth level is based on a 2% population growth rate. The medium growth scenario assumes an annual population growth rate of 2.3%. The high growth scenario assumes an annual population increase of 2.6%.

Average Annual Commercial Land Use Demand in Acres

Source: City of Forest Grove Economic Opportunity Analysis 2009, Johnson-Reid, LLC

Use Type	Baseline	High Growth	Medium Growth
Office Commercial	14	18	16
Retail Commercial	19	28	25
Overnight Lodging	4	4	4
Specialized Uses	20	20	20
Industrial	35	64	52

Gross Employment Land Demand

City of Forest Grove Economic Opportunity Analysis 2009, Johnson-Reid, LLC

Use	Baseline	High	Medium
Office	56 acres	71 acres	65 acres
Industrial Anchor Tenant	45 acres	81 acres	67 acres
Large Industrial Tenant	51 acres	92 acres	75 acres
Medium Industrial Tenant	34 acres	61 acres	50 acres
Expanding User	9 acres	17 acres	14 acres
Small Business	24 acres	43 acres	36 acres
TOTAL	219 acres	365 acres	307 acres

High Technology

Strengths for Forest Grove in this cluster include proximity to Oregon's largest high technology manufacturing center. One high technology firm has a presence in Forest Grove.

Challenges in this cluster include limited supply of large lot serviced industrial land. Forest Grove's work force does not readily match the needs of high technology firms. Another challenge is regional land use policies which prioritizes regional investments in regionally significant industrial areas.

Development within the high technology corridor of Washington County demonstrates that high technology firms favor large sites with ample room for expansion. The Forest Grove Economic Opportunity Analysis and 2011 Land Use Inventory indicates a lack of large sites designated for light industrial uses with services within the urban growth boundary. Two vacant sites between 25 and 35 acres remain in the southeast industrial area in the vicinity of Heather Street. Vacant General Industrial land in the Oak Street area, south of Highway 47, exists and may be suitable for a high technology firm once urban services are extended. This site is approximately 75 acres in area.

Agricultural/Farm Products

Cluster strengths include proximity to high-quality farmland and availability of water. Agricultural processing has an established presence in Forest Grove and a workforce with expertise in this area. Forest Grove has the potential to take advantage of agri-tourism. Forest Grove is also well located to take advantage of export markets. Wages in this sector tend to be low relative to other clusters.

Forest Grove is fairly well positioned to take advantage of the burgeoning specialty agriculture products sector especially beverages (distilling, brewing and wine production).

Cluster challenges include type of agricultural product produced in the Forest Grove area. The raising of nursery stock, seasonal fruit varieties and exporting raw logs limits the potential for value added

agricultural processing. Climate change may also impact the type of agricultural produce that is viable in the region.

Education

Cluster strengths include the presence of Pacific University which attracts regional, national and international students.

Cluster challenges include primary and secondary school funding and expansion of the Pacific University graduate programs in Hillsboro.

Retirement Services

Cluster strengths include the livability of Forest Grove area and favorable demographics. Approximately 20% of the City's population is aged 55 and older. These households provide support for leisure activities and financial services. Over the next five years, the retirement age population is expected to increase by 16%.

Adding to the strength of this cluster is the presence of Forest Grove hospital. The Forest Grove hospital operated by Tuality Healthcare is purported to have one of the finest geriatric facilities in the region.

Existing Conditions

Existing industrial activity in Forest Grove is concentrated in four distinct areas: the Taylor Way industrial area, 24th Avenue industrial area, 23rd Avenue industrial area and the Southeast industrial area.

The Taylor Way industrial area includes the National Guard Armory, Forest Grove School District bus yard, Sake One distillery, Kerr Construction company, and a wholesale warehouse facility. The Taylor Way industrial area is characterized by land intensive enterprises. Opportunities exist to intensive development in this area.

The 24th Avenue industrial area includes a variety of activities including warehousing flex space, food processing, warehousing, industrial services, and some light manufacturing.

The 23rd Avenue industrial area includes agricultural food processing, the City Public Works shops and agricultural processing businesses. This industrial area is in a state of transition.

The Southeast industrial area is anchored by a high technology firm specializing in circuit board manufacturing. A sizable amount of vacant industrial land remains in this area. The majority of manufacturing employment in Forest Grove is located in this area.

Based on the Economic Opportunity Analysis there is a potential 20-year need for approximately 240 vacant acres of industrial land. The current supply of vacant land is approximately 290 acres. This amount of land does not include land with vacant structures that could accommodate future needs. Consideration should be given to converting excess industrial land in appropriate locations for other employment needs such as medical facilities and offices. Some land designated industrial could also be used for mixed-use development or residential development.

Industrial and Employment Objectives

1. Provide at least 250 acres of land for industrial development anticipated over the next 20 years.
2. Land designated for industrial use shall have a slope of 5% or less and access to arterial and collector street and adequately sized utilities.
3. Ensure the availability of at least one large industrial tract comprising at least 50 gross acres in land area.
4. Develop plans for the financing and construction of streets and sanitary sewers serving land designated for future industrial use.
5. Maintain an inventory of available industrial land, updating it annually.
6. Provide for specific industrial activities as permitted uses in designated industrial districts, restricting retail and office uses to those directly accessory to the main industrial use of a site.
7. Provide that industrial activity shall be separated from established residential neighborhoods and all future residential development, and require either natural or man-made buffers between industrial and residential land.
8. The City shall cooperate with the local Chamber of Commerce and other economic development entities in the area in promoting industrial development in Forest Grove.
9. Coordinate the designation of industrial and other land use activities in the Comprehensive Plan with the Transportation Element. Through the designation of industrial land use linked to the recommended transportation network of arterials and collectors, existing and proposed residential areas can be avoided to the maximum extent possible.
10. Access to industrial sites shall be from arterials or local industrial streets, oriented away from residential areas wherever feasible.
11. Estimate industrial land needs for the next 50 years and identify the most appropriate locations for this development to occur. The design of future sewers and other facilities should take into account the servicing of this additional land area.
12. Implement development standards to promote start-up businesses.
13. Work with our regional partners to ensure there's an adequate supply of industrial land in locations meeting the economic development needs of Forest Grove.
14. Develop a concept plan for the Purdin Road Urban Reserve Area.
15. Implement development standards to promote the efficient use of industrially zoned land.
16. Transition industrial activities out of the Town Center and re-use these sites for commercial and residential mixed-use activities.
17. Redesignate appropriate industrial areas to employment areas to promote a diversity of employment activities and encourage the re-use of underutilized land.
18. Seek opportunities to recruit industrial activities that could take advantage of the City's cost-competitive electricity rates and the skills of the resident labor force.

19. Develop economic development programs that support Forest Grove's location in the region and limited connectivity with Hillsboro and Portland. Work with regional partners to overcome these constraints.
20. Promote small scale manufacturing and services with housing in zoning and development standards.
21. Implement a land use concept to increase jobs-housing ratio in Forest Grove from 1.2 to 1.5.
22. Implement development standards and incentives to protect large industrial sites.
23. Implement development standards and incentives to encourage the preservation of large industrial sites.
24. Redesignate appropriate industrial areas to employment areas to promote a diversity of employment activities and the re-use of underutilized land.

Land Use Implementation Actions

Specific land use implementation actions are described below:

1. The City of Forest Grove will adopt a land use concept that promotes the efficient use of land within the urban growth boundary²³. Measures to promote the efficient use of land will take into account local land economics and market feasibility. Examples of development standards to encourage the efficient use of land include implementing minimum floor area requirements in all commercial and employment zones, increasing minimum development densities, reducing off-street parking requirements, allowing for density bonuses, and/or transfer of development rights.
2. The City of Forest Grove will support policies that promote the continued viability of the Forest Grove Town Center as the focal point of the community. Future comprehensive plan text and map amendments affecting land use should consider potential positive and negative impacts to the Forest Grove Town Center. Potential positive impacts include increasing housing in the Town Center and finding creative ways to efficiently use upper floor space. Negative impacts include implementing policies that increase land values beyond what downtown shop owners can afford and allowing the continuation of incompatible land extensive activities better suited for employment or industrial areas. Other negative impacts include adopting zoning provisions that do not recognize market realities.

²³ The efficient use of land reduces pressure to expand the urban growth boundary and thereby conserving agricultural land, reduces the cost of development by reducing the cost to extend public services, reduces traffic congestion by placing complementary activities near one another and improves air quality and lowers greenhouse production, reduces the length of automobile trips and reduces the cost to operate a vehicle.

3. The City of Forest Grove will support policies that encourage locating complementary land uses in proximity to reduce demand on transportation systems and improve the overall quality of life of the community.
4. The City of Forest Grove will develop land use concept plans for approved urban reserve areas that support the complete community concept by complementing the historic development pattern of the community, promoting jobs-housing balance, providing cost-effective public services and governance and limiting development impacts affecting surrounding agricultural activities and investments.
5. The City of Forest Grove will promote policies designed to protect the character of single family residential neighborhoods while also allowing for limited infill development.
6. The City of Forest Grove will support policies to consolidate access points along the Pacific Avenue corridor.
7. The City of Forest Grove will participate in regional affairs to advance policies that address local land use and development needs.

Plan Monitoring

The comprehensive plan is intended to be a dynamic document. The plan should be reviewed periodically and updated to ensure that policies remain relevant based on changing conditions and community needs.

Cross References

- ORS 197, Metro Regional Framework Plan;
- Statewide Land Use Planning Goal 2;
- Comprehensive Plan Background chapter, Comprehensive Plan Housing Element, Comprehensive Plan Economic Development Element, Comprehensive Plan Urbanization Element.

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Chapter 5

Housing

Introduction

During November 2007, the Oregon Department of Land Conservation and Development notified the City of Forest Grove of the need to begin review of the Forest Grove Comprehensive Plan. State law requires that cities and counties update their comprehensive plans periodically to ensure ongoing compliance with specific Statewide Planning Goals and to address changing local conditions. The Forest Grove Comprehensive Plan was adopted in 1980. The last significant update occurred in 1988.

This element of the Forest Grove Comprehensive Plan is intended to show compliance with Statewide Planning Goal 10: Housing. Goal 10 requires that local governments plan for and accommodate needed housing types. It also requires that local governments inventory buildable residential land, estimate future needs for residential lands and identify buildable land to meet those needs. Goal 10 also prohibits local jurisdictions from discriminating against needed housing types.

The information presented in this chapter is based on data from the City's land use inventory completed in late-2008 and early-2009. A buildable land inventory (BLI) was also completed in order to estimate potential development capacity within the Forest Grove portion of regional urban growth boundary. This land use supply information augments the housing need projections derived from the recently completed EOA. The BLI shows the supply of land whereas the EOA, and accompanying housing forecast, documents expected demand for land based on employment and population growth.

This report documents past residential development trends within the Forest Grove portion of the regional urban growth boundary. In addition, this report identifies growth forecasts for housing during the next twenty-years. The housing forecast was developed in conjunction with an economic opportunity analysis (EOA) prepared for the City. The City's EOA was part of a coordinated economic analysis for the western-Washington County cities of Banks, North Plains, Cornelius, and Hillsboro. The EOA, and 20-year housing forecast, were prepared by Johnson-Reid, LLC.

The information contained in this report provides the factual basis necessary for preparing findings required to demonstrate compliance with Oregon Statewide Planning Goals, the Metro Regional Growth Management Framework Plan and Metro Functional Plan. This report also provides the information necessary to begin a dialogue with members of the community regarding housing needs and policies. Ultimately policies will be adopted by the Forest Grove City Council and included in the newly adopted comprehensive plan.

Housing

Implementation Actions

Local Context

The area of western-Washington County, now known as Forest Grove, was first settled during the 1840s. Forest Grove became an incorporated city in 1872 and grew around the Tualatin Academy which became Pacific University. Prior to incorporation, farming was the predominant occupation in Forest Grove. By the 1870s, the community started to diversify with 33% of the population engaged in farming. Merchants, craftsman and professionals working at the Tualatin Academy made up the rest of the working population.

Today Forest Grove covers a land area of approximately five square miles. In addition, Forest Grove businesses provide approximately 9,100 jobs for the region based on the economic opportunity analysis prepared for the City. The local economy includes concentrations of food and beverage processing, value-added wood products, high-tech industry, education and health care. The largest employer in Forest Grove is Merix Corporation a manufacturer of computer circuit boards. Merix employs approximately 1,400 persons.

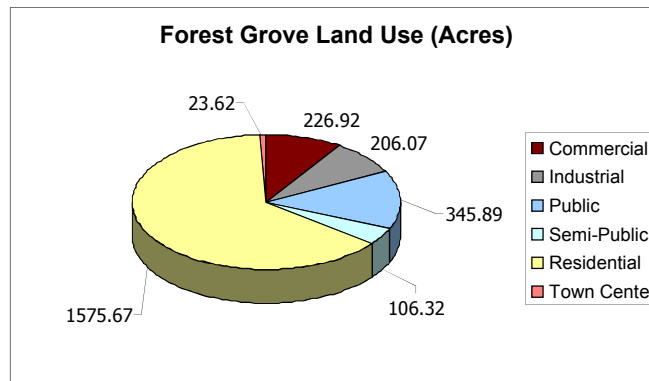
Forest Grove has experienced considerable growth during the past twenty years. The population of Forest Grove in 1988 was about 12,120 persons. In 2008, the population grew to 21,465 persons. This represents an increase of 77% over the twenty-year period. Much of the City's increase in population parallels employment growth in western-Washington County.

Historically, Forest Grove has been a complete community with education, housing and employment areas. Over the past twenty-years, however, the City has been evolving into a bedroom community. This trend will be exacerbated without adequate sites for employment and other activities.

The City of Forest Grove is served by several key transportation corridors. The primary east-west transportation connection is Oregon Highway 8 linking Forest Grove with Hillsboro and Beaverton to the east. The primary north-south transportation corridor is Oregon Highway 47 connecting Forest Grove with Banks to the north and Yamhill County to the south. Forest Grove is also served by Martin Road linking Forest Grove with the Sunset Highway (US 26) corridor via Verboort Road, Cornelius-Schefflin Road and Glencoe Road. In addition to the road network, Forest Grove is also served by TriMet Line 57 which generally follows the Tualatin Valley Highway. TriMet Line 57 provides frequent bus service from Forest Grove to Hillsboro and Beaverton.

Forest Grove's development pattern includes a compact Town Center near the main campus of Pacific University, a commercial corridor along Pacific Avenue, and industrial areas in the northeastern and far southern parts of the community. Although Forest Grove includes commercial and industrial lands, Forest Grove is continuing to evolve into a residential community if present trends continue. Approximately 1,600 acres of land is developed in Forest Grove with housing. This represents approximately two-thirds of the City's developed land area based on the land use inventory. Another 206 acres is currently developed for industrial activities. Commercial uses account for about 227 acres of the developed land area as shown by the chart below.

Figure 1



Source: City of Forest Grove, Land Use Inventory 2011

Forest Grove is also characterized by several significant natural features. These features include the Gales Creek and Tualatin River floodplains south of the community, Council Creek north of the city, Fern Hill wetlands and David Hill in the Coast Range foothills. Forest Grove's urban forest is also a defining element for the community.

Significant built features providing a sense of place for Forest Grove include the historic Forest Grove Town Center, including many of the original homesteads, the Clark and Painter Woods historic districts and the main campus of Pacific University. The neighborhood northeast of the Town Center also contains historic homes.

The City completed a visioning process in 2007. This visioning process provided the framework of local aspirations developed to ensure that Forest Grove remains a complete community. In general, Forest Grove aspires to:

- ✓ Retain the vitality of its historic town center and surrounding historic neighborhoods. This will be achieved by promoting appropriate densities to ensure compatible future development patterns within the City's historic neighborhoods;
- ✓ Promote job opportunities where local residents have the ability to find work close to home thereby reducing commute times and travel costs;
- ✓ Plan for an adequate supply of industrial sites necessary to meet industry needs;
- ✓ Increase development densities in select areas near transportation corridors to support high capacity transit options including commuter or light rail; and
- ✓ Implement development regulations to encourage development within key nodes along the Pacific Avenue commercial corridor including opportunities for mixed-use development.

Oregon Statewide Planning Goal 10: Housing

Statewide Planning Goal 10 provides a framework for ensuring that the housing needs for current and future residents are met throughout the state. State law requires that local comprehensive plans be consistent with Goal 10. Compliance is achieved by inventorying buildable lands for residential use in order to ensure adequate opportunities for housing units at price ranges and rent levels needed based on the financial capabilities of households. In addition, Goal 10 promotes flexibility of housing location, type and density.

The Residential Land Study provides the foundation for developing goals and policies for one of the most critical sectors of the economy: housing. Residential development comprises approximately two-thirds of developed land based on the City's recently completed land use inventory.

As described more fully below, the City of Forest Grove Comprehensive Plan and Development Code identify a variety of residential development zones intended to promote housing choice for the community. These designations establish target densities to encourage the efficient use of land within the urban growth boundary appropriate for the carrying capacity of the land and local policy objectives. Densities range from a low of 1 housing unit per net acre to a high of approximately 20 units per net acre. Since 1980 residential development densities in Forest Grove averaged about 6.87 dwellings per acre. Between 2000 and 2008 the average density increased to about 8.5 units per acre. Based on the city's land use inventory, the overall residential density of the community is approximately 6.5 units per net acre.

Metro Requirements

In addition to statewide land use planning goals, local comprehensive plans must be consistent with regional urban growth goals and objectives. Regional growth goals and objectives are identified in the Metro Urban Growth Management Functional Plan. Title 1 (Requirements for Housing and Employment Accommodation), Title 7 (Housing Choice), and Title 12 (Protection of Residential Neighborhoods) specifically addresses housing issues.

One goal of the Metro Regional Framework Plan is the efficient use of land. Title 1 promotes the efficient use of land within the urban growth boundary by increasing capacity to accommodate housing and employment. Title 1 directs each city and county in the region to consider actions to increase capacity and to take action if necessary to accommodate its share of regional growth.

Housing and Employment Capacity:

1. Each city and county shall determine its capacity for housing and employment in order to ensure that it provides and continues to provide at least the capacity for the city or county specified in Table 3.07-1, supplemented by capacity resulting from addition of territory to the urban growth boundary.
2. A city or county shall determine its capacity for dwelling units by cumulating the minimum number of dwelling units authorized in each zoning district in which dwelling units are authorized.
3. If a city annexes county territory, the city shall ensure that there is no net loss in regional housing or employment capacity as a result of amendments of comprehensive plan or land use regulations that apply to the annexed territory.

Each city and county shall adopt minimum dwelling unit density for each zoning district in which dwelling units are authorized inside the UGB

The city or county shall not prohibit the partition or subdivision of a lot or parcel that is at least twice the size of the minimum size for new lots or parcels in any zoning district in which dwelling units are authorized.

A city or county shall authorize the establishment of at least one accessory dwelling unit for each detached single family dwelling unit in a zoning district and for each detached or attached single-family dwelling unit in a Regional Center or Station Community. The authorization may be subject to reasonable regulation for siting and design purposes.

The Metro Regional Framework Plan calls for establishment of voluntary affordable housing production goals to be adopted by local governments. Each city and county is asked to adopt affordable housing production goals as a guide to measure progress toward increasing housing choices and meeting the

affordable housing needs of households with incomes between 0% and 50% of the regional median family income. For Forest Grove this translates to approximately 1,500 households.

Title 7 establishes requirements to comprehensive plan and implementing ordinance changes:

1. Include strategies to ensure a diverse range of housing types within their jurisdictional boundaries
2. Include in their plans actions and implementation measures designed to maintain the existing supply of affordable housing as well as increase the opportunities for new dispersed affordable housing within their boundaries.
3. Include plan policies, actions, and implementation measures aimed at increasing opportunities for households of all income levels to live within their individual jurisdictions in affordable housing

Voluntary affordable housing production goals for Forest Grove identified in Title 7: 55 (new units for households earning less than 30% of median household income), 10 new housing units for households earning 30% to 50% of median household income.

Local Regulatory Context

The City of Forest Grove Comprehensive Plan and Development Code establishes the policy and regulatory framework for land use activities including residential development. The Comprehensive Plan establishes seven residential plan designations. Plan designations range from very low development intensity to moderately high density. The lowest density plan designations apply to areas of the community where the elevation is too high to provide city water service.

Table 1 Comprehensive Plan Designations

Comprehensive Plan Designation	Target Density
D-Suburban	1.00 dwelling/net acre
C-Low	4.35 dwellings/net acre
B-Standard	6.22 dwellings/net acre
B-C	6.22 dwellings/net acre
A-Medium	8.71 dwellings/net acre
Medium Density Residential	12.00 dwellings/net acre
High Density Residential	20.28 dwellings/net acre

The Forest Grove Development Code establishes six residential and three Town Center zoning districts. The Town Center zoning districts permit mixed-use development including residential development on the second floor of a building. In addition, the City's Neighborhood Commercial district allows residential development with a mixed-use development. Furthermore, the Community Commercial zoning district along the Pacific/19th Avenues corridor allows stand-alone residential development or housing as part of a mixed-use project.

The Forest Grove Comprehensive Plan Land Use Chapter establishes locational criteria. This criterion is used to assess the suitability of land for various types of urban land use. The criteria established for identification of suitable residential land are presented below:

Table 2: Land Use Location Criteria

Land Use	Description	Criteria for Allocation
High Density Residential	Up to 20.28 units/net residential acre	<ul style="list-style-type: none"> • Hazard free location suitable for heavy building • 10% or less slope • Location near major arterials with buffer strips • Convenient walking distance to open space, mass transit, and community-serving commercial area • Availability of full urban services
Medium Density Residential	Up to 12 units a net residential acre	<ul style="list-style-type: none"> • Hazard free location suitable for home sites • 10% or less slope • Location bounded but not penetrated by major arterials or railroads • Convenient driving distance to schools and neighborhood commercial • Availability of full urban services
Low Density Residential	4.35 to 8.71 units per net acre (single family)	<ul style="list-style-type: none"> • Hazard free location suitable for home sites • Consideration of density related to building limitation (slope, soil, geology) • 20% or less slope • Location bounded but not penetrated by arterials or railroads • Convenient driving distance to schools and neighborhood commercial • Availability of full urban services

Table 3 Zoning Classifications

Map	Zoning Classification	Target Density
SR	Suburban Residential	1.00 dwelling/net acre
R-10	Single Family Residential	4.35 dwellings/net acre
R-7	Single Family Residential	6.22 dwellings/net acre
R-5	Single Family Residential	8.70 dwellings/net acre
RML	Multifamily Residential Low	12.00 dwellings/net acre
RMH	Multifamily Residential High	20.28 dwellings/net acre

Consistent with Statewide Planning Goal 10, the application of these comprehensive plan and zoning designations take into consideration the carrying capacity of the air, land and water resources of the planning area. For example, lower density land use designations apply to areas constrained by steep slopes. Furthermore, the City's Planned Residential Development overlay zone provides for flexibility in the development process to account for environmental constraints, including wetlands, as part of site design.

Metropolitan Housing Rule

OAR 660-007-0035 establishes minimum residential density requirements for cities within the Portland regional urban growth boundary. Under OAR 660-007-0035 jurisdictions must provide the opportunity so that at least 50 percent of new residential units are attached single family or multiple family housing. As a point of reference, the 2005-2007 American Community Survey reports that 50.7% of the housing units in Forest Grove are single family detached and 49.3% are classified as single family attached, duplex or multiple family units.

Based on the City's buildable land inventory the land planned within the Forest Grove portion of the regional urban growth boundary provides an opportunity so that at least 50% of the housing units can be single family attached or multiple family units. Housing capacity within the existing urban growth boundary is estimated to be 4,700 units. Land designated (planned and zoned) for single family detached and multiple family units, within the urban growth boundary could yield approximately 2,900 units or 62% of total estimated capacity. Land planned for single family detached units could yield approximately 1,800 units or 38% of the total estimated capacity.

Also consistent with OAR 660-007-0035, the City of Forest Grove has provisions in place to provide for an overall density of eight or more dwellings per net buildable acre. Provisions include minimum density requirements established for each zoning classification and the Planned Development designation intended to encourage flexibility with site design. This flexibility provides an opportunity to encourage the efficient use of land. In addition, housing types are not restricted under the Planned Development designation and development must occur at no less than 80% of the target density of the base zoning designation. Furthermore, the Planned Development designation provides for a density incentive within planned developments. Together, these provisions facilitate a more economical arrangement of buildings, circulation systems, and utilities when compared to conventional development patterns. This could translate into lower costs and more affordable housing options.

Population Trends

Table 1 shows population trends since 1988. In 1988 the population of Forest Grove was about 12,120 persons. Twenty-years later in 2008, the population grew to approximately 21,465 persons. This represents an increase of approximately 77% over the twenty-year period. It is expected that the population of Forest Grove could reach 33,600 persons during the next twenty-years when the current urban growth boundary is fully built-out. This build-out estimate is based on remaining capacity for

residential development within the Forest Grove portion of the regional urban growth boundary. Additional information about the process for estimating growth capacity follows near the end of this report.

Table 4 Historical Population Data

Forest Grove Population 1988 to 2008

Year	Population	Number	Percentage Increase
1988	12,120		
1989	12,180	60	0.50%
1990	13,559	1,379	11.32%
1991	13,830	271	2.00%
1992	14,010	180	1.30%
1993	14,175	165	1.18%
1994	14,295	120	0.85%
1995	14,755	460	3.22%
1996	15,370	615	4.17%
1997	15,965	595	3.87%
1998	16,170	205	1.28%
1999	16,275	105	0.65%
2000	17,708	1,433	8.80%
2001	18,380	672	3.79%
2002	18,520	140	0.76%
2003	19,130	610	3.29%
2004	19,200	70	0.37%
2005	19,565	365	1.90%
2006	20,380	815	4.17%
2007	20,775	395	1.94%
2008	21,465	690	3.32%

Source: Portland State University, Center for Population Research and Census

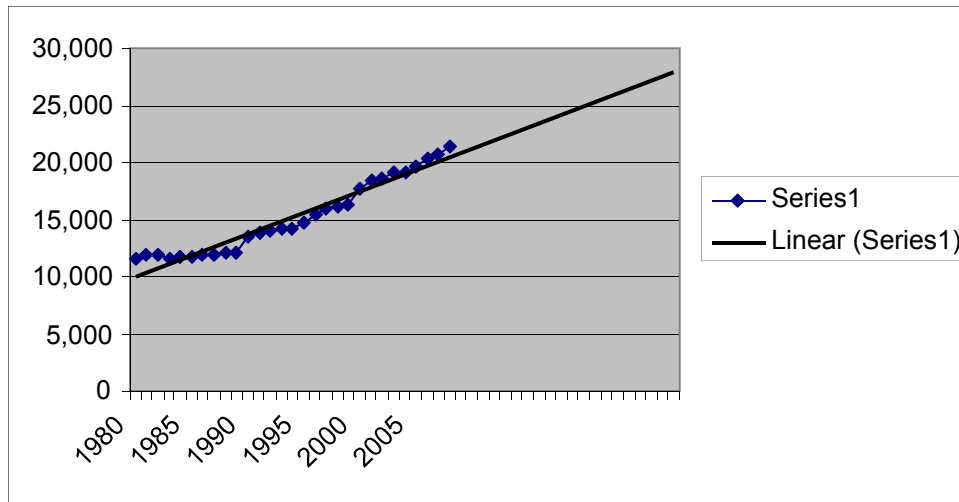
The graph below shows a trend line for population growth since 1980. The graph also shows how population might grow based on historic population trends. It is important to note the trend line does not take into account the amount of vacant developable land by zoning classification. The analysis is based on historical population trends.

Population could be higher than the trend line indicates if market demand is for higher density development and land is re-designated to accommodate such development. This leads to two possibilities: additional capacity within the UGB due to additional multi-family residential development or faster or slower growth due to changing conditions.

It is also important to note, past trends may not be indicative of future land use policy changes at the regional or local levels. Furthermore, past trends may not be indicative of changes in individual household preferences over time.

Table 5 Forest Grove Population Growth Trends and Forecast

1980 - 2028



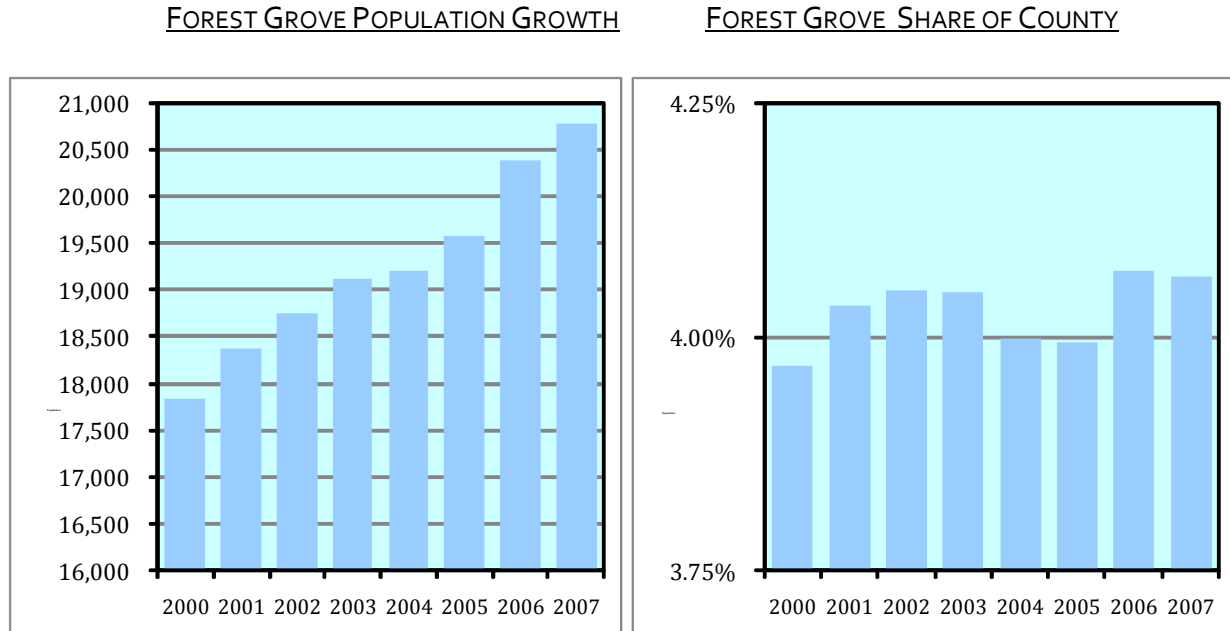
Source: City of Forest Grove Community Development Department

As indicated in the graphic above, starting in 1990 the pace of population growth accelerated compared to the 1980s. This trend generally mirrors the growth of job opportunities in western-Washington County especially in Hillsboro. As such, employment growth in western-Washington County is a good indicator of population growth in Forest Grove. This premise holds provided there is adequate land for needed housing options to accommodate increased demand.

In addition to economic considerations (e.g. availability and cost of land, housing choices, and transportation costs) other determinants of growth include local governmental policies. An example of local policies affecting growth includes the local planning agreement between Forest Grove and Washington County. The agreement forces urban development to occur only within city limits.

The share of Washington County population living in Forest Grove has remained relatively constant since 2000. The chart below shows the distribution of Forest Grove's population as a share of Washington County's overall population. Although Forest Grove's population has increased considerably since 2000, the City's share of the Washington County's population has remained relatively constant at about 4% of the County total. This seems to indicate that the rate of growth throughout Washington County has matched the rate of rate of growth occurring in occurring in Forest Grove. Population is shown vertically in the graph labeled "Forest Grove Population Growth."

Figure 2



Source: Forest Grove Economic Opportunity Analysis (2009), Johnson-Reid, LLC

Housing Needs Projections

The profile of current housing conditions in the study area is based on certified 2008 estimates from the Population Research Center at Portland State University. Estimates of current population and households were cross referenced with estimates from Claritas, and the U.S. Census.

Following the establishment of the current housing profile, current housing need was determined based upon the age and income characteristics of current households. The analysis considered the propensity of households in specific age and income levels to either rent or own their home. This analysis was used to derive the current need for ownership and rental housing units. The analysis was also used to estimate housing cost estimates for specific income categories.

Table 6 Current Housing Profile (2008)

Total Population	21,465	Notes
Estimated Group Housing Population	1,583	7.4% of Total Population
Estimated 2008 Population		Total Pop. – Group Pop.
Avg. Household (HH) Size	2.68	Claritas and Census
Estimated 2008 Households	7,419	Pop/HH Size
Total Housing Units	7,768	Occupied + Vacant
Vacant Housing Units	350	Johnson-Reid
Current Vacancy Rate	4.5%	Census, Johnson-Reid

Sources include the Portland State University, Center for Population Research and Census, City of Forest Grove Community Development Department, Claritas Corporation, US Census Bureau, Johnson-Reid, LLC.

Future Housing Profile

The table below shows the housing profile for Forest Grove in the year 2028 based on three possible scenarios. Each scenario assumes a different annual growth rate ranging from 2.0% to 2.6%.

Table 7

Source: City of Forest Grove, Economic Opportunity Analysis (2009), Johnson-Reid, LLC

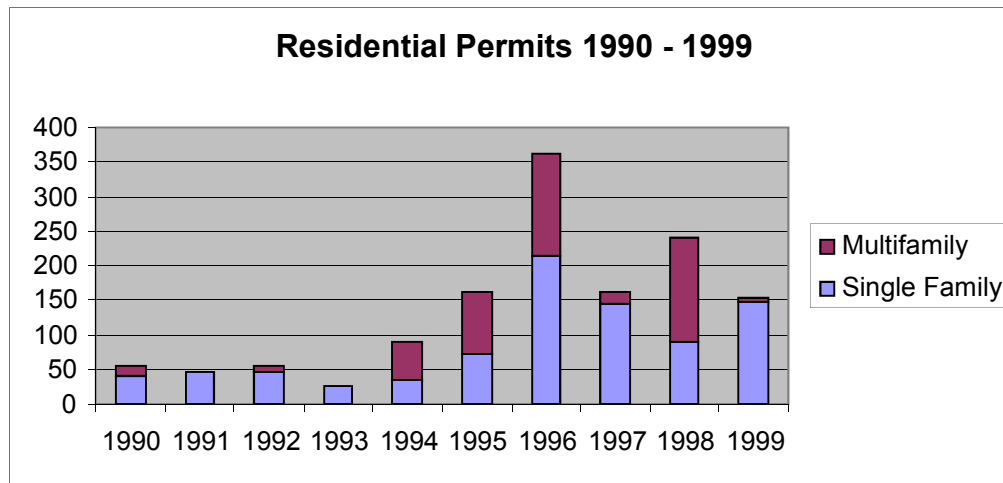
	Baseline Growth Scenario	Medium Growth Scenario	High Growth Scenario
2008 Population	19,882	19,882	19,882
Annual Growth Rate	2.0%	2.3%	2.6%
Estimated 2028 Pop.	29,394	31,504	32,916
Estimated 2028 HH.	10,968	11,755	12,282
Total Housing Unit	11,668	12,506	13,066
New Population	9,512	11,622	12,034
New Households	3,549	4,337	4,863
New Housing Units	3,900	4,737	5,298

Residential Building Permit Trends

This section of the Residential Land Study describes residential building permit trends in Forest Grove during the decade of the 1990s and during the period from 2000 to 2008. During the 1990s 412 single family and 186 multifamily permits were issued. Single family permits accounted for approximately 69% of the total number of permits issued. Twenty-eight permits were issued for demolition of structures during the 1990s.

The chart below shows building permit trends between 1990 and 1999:

Figure 3

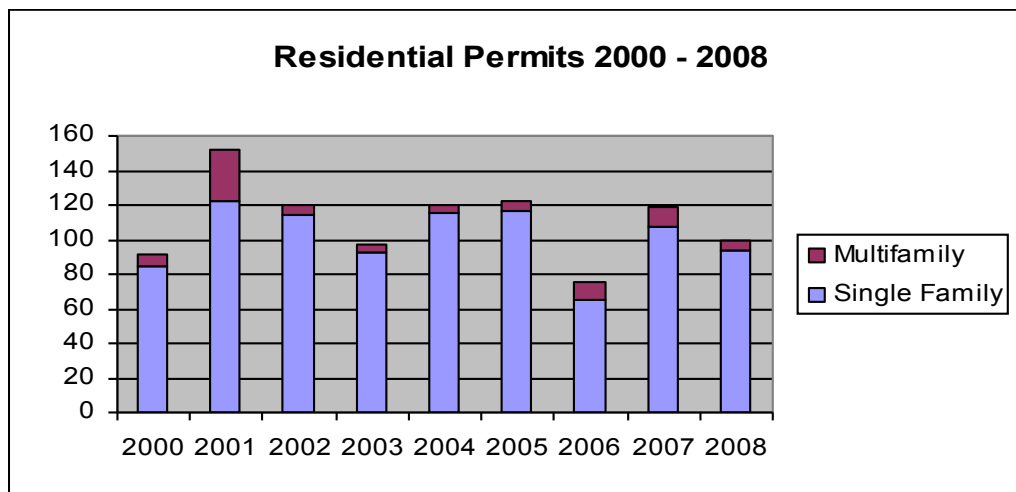


Source: City of Forest Grove, Building Division Records

Most of the multifamily permit activity occurred during 1996 and 1998. Single family development also spiked in 1996.

Unlike the decade of the 1990s, the period from 2000 to 2008 was characterized by fairly constant building permit activity. Approximately 914 single family permits were issued between 2000 and 2008. Approximately 81 multifamily permits were issued during this same time frame. In addition, approximately 121 permits were issued for demolition of structures between 2000 and 2008. Residential building permit activity peaked during 2001. A drop in activity was recorded in 2006 after fairly constant activity in 2004 and 2005 with approximately 120 permits issued each year respectively. Due to the national economic recession building permit activity declined dramatically in 2009. It is likely this downturn will continue into at least 2010.

Figure 4



Source: City of Forest Grove, Building Division Records

Land Division Trends

A number of factors influence land division trends including land availability, location, the cost of land, housing demand, and vacancy rates. Together these factors affect land absorption rates over time.

Article 6 of the Forest Grove Development Code establishes the procedures for dividing land within the city. Dividing land, either through a partition or subdivision, is often the first step in the development process. How land is divided into blocks, lots, and streets defines the pattern of the community. It also influences a person's perception about pedestrian-friendliness, building scale, and overall community livability.

The land division review process ensures that building sites are of sufficient size and appropriate design for their intended uses. Land division regulations are also intended to minimize the effects of development upon the natural environment. Furthermore, land division requirements promote safe and efficient transportation routes and living environments that foster a sense of community and neighborhood identity; in other words a complete community.

Since 1980, 58 subdivisions were recorded between 1980 and 2008. These subdivisions resulted in the creation of 2,097 lots/units. During this 28-year period approximately 345 acres were subdivided with an average overall net density of 6.87 dwellings per acre.

The table and chart below shows the zoning of subdivisions recorded since 1980. In addition, the table indicates the number of lots/units created, net density and target density.

Table 8 Recorded Subdivisions by Residential Zoning Designation

Zoning Designation	Number of Subdivisions	Units/Lots Created	Net Density	Target Density
RML	3	125	6.18	12.0
RMH	6	198	12.84	20.28
R-10	16	603	5.21	4.35
R-5	2	40	6.39	8.70
R-7	31	1,125	6.31	6.22
Total	58	2,091		

RML = Residential Multifamily Low, RMH = Residential Multifamily High

Source: City of Forest Grove, Planning Division

The chart shows that the majority of lots (54%) created since 1980 have been in the R-7 residential development zone (7,000 square foot average lot size). Approximately 29% of the recorded lots created were within the R-10 (10,000 square foot lot) residential zone. It is this R-7 development that defines the predominant residential character of Forest Grove.

Table 9 Recorded Subdivisions by Residential Zoning Designation

Zoning Designation	Number of Subdivisions	Units/Lots Created	Net Density	Target Density
RML	3	125	6.18	12.0
RMH	6	198	12.84	20.28
R-10	16	603	5.21	4.35
R-5	2	40	6.39	8.70
R-7	31	1,125	6.31	6.22
Total	58	2,091		

Source: City of Forest Grove, Planning Division

The chart shows that the majority of lots (54%) created since 1980 have been in the R-7 residential development zone (7,000 square foot average lot size). Approximately 29% of the recorded lots created were within the R-10 (10,000 square foot lot) residential zone. It is this R-7 development that defines the residential character of Forest Grove.

Developed Residential Land

Land use is a defining element of a community. The type and location of housing, parks, shopping areas and industry leaves a lasting impression on residents and visitors alike. The tables below show the distribution of developed land within Forest Grove by comprehensive plan designation and zoning classification.

Approximately 62% of developed land is designated for residential development under the Forest Grove Comprehensive Plan. It includes all land (unincorporated and incorporated) within Forest Grove's portion of the UGB. This figure does not include comprehensive plan designations that permit residential development in limited circumstances such as within commercial zoning districts.

Table 10 Developed Acres Comprehensive Plan Designation

Comprehensive Plan Designation	Residential Density	Acres	Percentage
A-medium	8.71	115.16	4.8%
B-C	4.36 to 6.22	164.62	6.9%
B-Standard	6.22	480.39	20.2%
Town Center	20.28	23.62	1%
C-Low	4.36	286.31	12%
Medium Density Residential	12.0	179.90	7.6%
High Density Residential	20.28	242.97	10.2%
Community Commercial	20.28	226.92	9.5%
Light Industrial	n/a	31.2	1.3%
General Industrial	n/a	174.87	7.4%
Semi-Public	n/a	106.32	4.5%
Public	n/a	307.20	12.9%
Park	n/a	38.69	1.6%
Total		2378.17	99.9%

Residential density is expressed in dwelling units per net acre

Source: City of Forest Grove, Planning Division, Land Use Inventory (2011)

Approximately 70% of developed land within the City of Forest Grove is zoned for residential development under the Forest Grove Development Code. This percentage is higher than the number shown for land classified by comprehensive plan designation. This is because unincorporated Washington County land is not included in the City's zoning data. Unincorporated land may only develop at urban densities after annexation into the City. In contrast, the comprehensive plan is a long term policy document guiding development. As such, unincorporated land is included in the comprehensive plan acreage statistics.

Estimates for residential development within these districts are included in the redevelopment and infill section below.

Table 11

Source: City of Forest Grove, Planning Division, Land Use Inventory (2011)

Zoning Classification	Acres	Percentage
RML	167.07	7.3%
RMH	369.74	16.1%
Town Center	34.98	1%
Community Commercial	254.01	11.1%
Commercial Neighborhood	1.45	0%
Commercial Planned Development	4.18	0%
General Industrial	301.79	13.2%
Light Industrial	54.38	2.4%
R-10	159.43	6.9%
R-5	126.78	5.5%
R-7	778.12	33.9%
Total	2294.32	99.2%

Vacant Residential Land

The chart below shows the amount of vacant residentially zoned land within the Forest Grove city limits. Data is provided for gross vacant and net buildable acres. Gross vacant acres include all vacant land zoned for residential development. The net buildable acre figure takes into account constraints to development including steep slopes, wetlands, and designated open space.

Table 12

Source: City of Forest Grove, Planning Division, Land Use Inventory (2011)

Zoning Classification	Gross Vacant Acres	Net Buildable Acres
RML	38.02	29.88
RMH	83.26	69.55
R-10	150.50	120.34
R-5	56.46	40.16
R-7	207.50	104.49
Total	535.74	364.42

The vacant residential land analysis does not include unincorporated land within the Forest Grove portion of the urban growth boundary. This land is zoned by Washington County for future development. Parcels zoned for future development are included in the redevelopment and infill section below.

Redevelopment and Infill

Additional growth capacity exists within the urban growth boundary through redevelopment of underutilized sites including property now zoned by Washington County for future development. Unincorporated land within the urban growth intended for future development is zoned FD-10 by Washington County. The FD-10 designation is defined to mean future development with a ten acre minimum lot size. Only one single family dwelling is allowed on FD-10 land.

The Forest Grove portion of the regional urban growth boundary contains approximately 115 acres of net developable land planned for residential development and currently zoned FD-10. Based on current

comprehensive plan designations this property could accommodate approximately 693 housing units at build-out.

In addition to property zoned FD-10 growth capacity exists within areas near major transportation corridors including the underutilized railroad corridor north of Pacific Avenue. An assessment of unit yield is presented below. These numbers are not absolute but provide an order of magnitude estimate of development potential in this area.

Table 13 “Refill” Development Potential within City of Forest Grove (2009)

Source: City of Forest Grove, Planning Division

Area	Units
Town Center	75 units
East of Town Center (Commercial Area)	311 units
Commercial Corridor	300 units
Total	686 units

Table 14 Current Housing Profile (2008)

Total Population	21,465	Notes
Estimated Group Housing Population	1,583	7.4% of Total Population
Estimated 2008 Population		Total Pop. – Group Pop.
Avg. HH Size	2.68	Claritas and Census
Estimated 2008 Households	7,419	Pop/HH Size
Total Housing Units	7,768	Occupied + Vacant
Vacant Housing Units	350	Johnson-Reid
Current Vacancy Rate	4.5%	Census, Johnson-Reid

Sources for the data above include the Portland State University, Center for Population Research and Census, City of Forest Grove Community Development Department, Claritas Corporation, US Census Bureau, and Johnson-Reid, LLC.

The table on the following page shows the distribution of housing type by price range. Ownership housing, including single and multiple family ownership options, account for 55% of all housing units in Forest Grove. It is interesting to note, that approximately 25% of rental housing units are single family residential units.

Table 15 Forest Grove Housing Profile by Tenure (2009)

OWNERSHIP HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cumulative %
\$0 - 50k	337	3	0	1	74	temp 2	416	9.7%	9.7%
\$50k - 70k	126	1	0	0	28	1	156	3.6%	13.4%
\$70k - 90k	126	1	0	0	28	1	156	3.6%	17.0%
\$90k - 120k	127	1	0	0	28	1	157	3.7%	20.7%
\$120k - 160k	315	2	0	1	69	2	390	9.1%	29.8%
\$160k - 230k	1,182	9	0	3	260	8	1,462	34.2%	64.0%
\$230k - 350k	830	7	0	2	182	6	1,027	24.0%	88.0%
\$350k - 460k	255	2	0	1	56	2	315	7.4%	95.4%
\$460k - 690k	118	1	0	0	26	1	147	3.4%	98.8%
\$690k +	42	0	0	0	9	0	52	1.2%	100.0%
Totals:	3,458	27	0	9	759	25	4,278	% of All Units:	55.1%
Percentage:	80.8%	0.6%	0.0%	0.2%	17.7%	0.6%	100.0%		

RENTAL HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cumulative %
\$0 - 250	10	4	6	20	0	temp 0	40	1.1%	1.1%
\$250 - 375	34	12	21	68	1	0	138	3.9%	5.1%
\$375 - 500	41	15	25	81	1	0	163	4.7%	9.7%
\$500 - 625	232	84	145	464	6	3	933	26.7%	36.5%
\$625 - 875	289	105	181	578	7	3	1,163	33.3%	69.8%
\$875 - 1,250	160	58	100	319	4	2	642	18.4%	88.2%
\$1,250 - 1,875	82	30	51	164	2	1	330	9.4%	97.6%
\$1,875 - 2,500	20	7	13	41	0	0	82	2.4%	100.0%
\$2,500 - 3,750	0	0	0	0	0	0	0	0.0%	100.0%
\$3,750 +	0	0	0	0	0	0	0	0.0%	100.0%
Totals:	868	316	542	1,734	21	10	3,490	% of All Units:	44.9%
Percentage:	24.9%	9.0%	15.5%	49.7%	0.6%	0.3%	100.0%		

TOTAL HOUSING UNITS								
	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units
Totals:	4,326	343	542	1,743	780	temp 35	7,768	100%
Percentage:	55.7%	4.4%	7.0%	22.4%	10.0%	0.4%	100.0%	

Source: Forest Grove Economic Opportunity Analysis (2009), Johnson-Reid, LLC

The following table shows the distribution of existing households by price range. These numbers vary from the housing unit statistics shown on the previous page. This is because housing unit statistics include vacant houses. Household numbers do not.

The table also shows the income required to afford the price of the housing unit. Of the estimated 7,419 households in Forest Grove, approximately 60% own their house. Forest Grove currently has a high ratio of rental units to ownership units compared to Washington County as a whole.

The highest concentration of occupied housing units falls within the \$230,000 to \$350,000 price range. This price range represents approximately 25% of owner-occupied housing units. The highest

concentration of renter-occupied housing units is the \$1,250 to \$1,875 monthly rent level range. It is estimated that households must earn at least \$50,000 per year in order to afford these units. This is the income needed to afford units. Affordability is defined as paying no more than 30% of household income for housing.

Table 16 Distribution of Needed Housing Units by Price and Income Range (2009)

Ownership				
Price Range	# of Households	Income Range	% of Total	Cumulative
\$0 - 50k	211	Less than \$10k	4.7%	4.7%
\$50k - 70k	135	\$10k - \$14.9k	3.0%	7.7%
\$70k - 90k	137	\$15k - \$19.9k	3.1%	10.8%
\$90k - 120k	143	\$20k - \$24.9k	3.2%	14.0%
\$120k - 160k	432	\$25k to \$34.9k	9.7%	23.7%
\$160k - 230k	701	\$35k to \$49.9k	15.7%	39.3%
\$230k - 350k	1,085	\$50k to \$74.9k	24.3%	63.6%
\$350k - 460k	779	\$75k - \$99.9k	17.4%	81.0%
\$460k - 690k	656	\$100k to \$149.9k	14.7%	95.6%
\$690k +	195	\$150k or more	4.4%	100.0%
Totals:	4,474		% of All:	60.3%

Rental				
Rent Level	# of Households	Income Range	% of Total	Cumulative
\$0 - 250	469	Less than \$10k	15.9%	15.9%
\$250 - 375	289	\$10k - \$14.9k	9.8%	25.7%
\$375 - 500	240	\$15k - \$19.9k	8.2%	33.9%
\$500 - 625	271	\$20k - \$24.9k	9.2%	43.1%
\$625 - 875	396	\$25k to \$34.9k	13.5%	56.6%
\$875 - 1,250	497	\$35k to \$49.9k	16.9%	73.4%
\$1,250 - 1,875	601	\$50k to \$74.9k	20.4%	93.8%
\$1,875 - 2,500	133	\$75k - \$99.9k	4.5%	98.4%
\$2,500 - 3,750	48	\$100k to \$149.9k	1.6%	100.0%
\$3,750 +	0	\$150k or more	0.0%	100.0%
Totals:	2,945		% of All:	39.7%

All Households
7,419

Source: Forest Grove Economic Opportunity Analysis (2009), Johnson-Reid, LLC

The table below shows how the current supply of housing meets estimated current demand. In general, there is an unmet need for ownership units in the \$120,000 to \$160,000 price range. It is possible that townhouses or condominiums could fulfill this need. There is also an unmet need for units priced over \$230,000 with the greatest need in the \$460,000 to \$690,000 category. Based on the table below, there appears to be a sufficient supply of lower priced owner-occupied units up to about \$230,000.

In terms of rental units there is a considerable need for units priced below \$500 per month. This category alone represents approximately 64% of needed rental housing units. The analysis also shows there is a need for units in the \$1,250 per month and higher price ranges. There is a sufficient supply of rental units in the \$500 to \$1,250 rental range.

Table 17 Estimated Need for Housing by Price Range

Ownership				Rental			
Price Range	Estimated Current Need	Estimated Current Supply	Unmet (Need) or Surplus	Rent	Estimated Current Need	Estimated Current Supply	Unmet (Need) or Surplus
\$0 - 50k	211	416	205	\$0 - 250	469	40	(429)
\$50k - 70k	135	156	21	\$250 - 375	289	138	(151)
\$70k - 90k	137	156	18	\$375 - 500	240	163	(77)
\$90k - 120k	143	157	14	\$500 - 625	271	933	662
\$120k - 160k	432	390	(42)	\$625 - 875	396	1,163	767
\$160k - 230k	701	1,462	762	\$875 - 1,250	497	642	145
\$230k - 350k	1,085	1,027	(58)	\$1,250 - 1,875	601	330	(271)
\$350k - 460k	779	315	(464)	\$1,875 - 2,500	133	82	(51)
\$460k - 690k	656	147	(510)	\$2,500 - 3,750	48	0	(48)
\$690k +	195	52	(143)	\$3,750 +	0	0	0
Totals:	4,474	4,278	(196)	Totals:	2,945	3,490	546

Occupied Units:	7,419
All Housing Units:	7,768
Total Unit Surplus:	350

Source: Forest Grove Economic Opportunity Analysis (2009), Johnson-Reid, LLC

Future Housing Profile

The table below shows the expected housing profile for Forest Grove in the year 2028. Three scenarios were modeled representing different growth rates. The growth rates range from 2.0% to 2.6%. The population estimate below does not include estimated group quarters population. The average household size used to estimate population is 2.68. The assumed housing unit vacancy rate is 6%. Both of these estimates are based on historical averages.

Table 18

	Baseline Growth Scenario	Medium Growth Scenario	High Growth Scenario
2008 Population (less group quarters)	19,882	19,882	19,882
Annual Growth Rate	2.0%	2.3%	2.6%
Estimated 2028 Pop.	29,394	31,504	32,916
Estimated 2028 Households	10,968	11,755	12,282
Total Housing Unit	11,668	12,506	13,066
New Population	9,512	11,622	12,034
New Households	3,549	4,337	4,863
New Housing Units	3,900	4,737	5,298

Sources: PSU Population Research Center, Claritas Corporation, US Census, Johnson-Reid, LLC

Projected Total Housing Needs

The table below shows the possible distribution of housing units by tenure (renter- or owner-occupied) and price range. The numbers are based on the baseline growth scenario prepared by Johnson-Reid. The baseline growth scenario assumes an average annual growth rate of 2.0%. Between 1990 and 1999 the average annual rate of growth was approximately 2.0%. Between 2000 and 2008 the average annual rate of growth increased to approximately 2.4%. Thus the baseline and medium growth scenarios are based on historical precedence. The high growth scenario is based on increased demand for housing based on increased job creation in Hillsboro and western-Washington County.

Table 19

Ownership				Rental				
Price Range	# Units	% of Units	Cumulative	Rent	# Units	% of Units	Cumulative	
\$0 - 50k	322	4.2%	4.2%	\$0 - 250	653	16.0%	16.0%	
\$50k - 70k	186	2.4%	6.7%	\$250 - 375	365	9.0%	25.0%	
\$70k - 90k	206	2.7%	9.4%	\$375 - 500	337	8.3%	33.3%	
\$90k - 120k	217	2.9%	12.3%	\$500 - 625	332	8.1%	41.4%	
\$120k - 160k	617	8.1%	20.4%	\$625 - 875	544	13.4%	54.8%	
\$160k - 230k	1,038	13.7%	34.1%	\$875 - 1,250	671	16.5%	71.2%	
\$230k - 350k	1,605	21.1%	55.2%	\$1,250 - 1,875	827	20.3%	91.5%	
\$350k - 460k	1,387	18.3%	73.5%	\$1,875 - 2,500	233	5.7%	97.2%	
\$460k - 690k	1,487	19.6%	93.1%	\$2,500 - 3,750	112	2.8%	100.0%	
\$690k +	527	6.9%	100.0%	\$3,750 +	0	0.0%	100.0%	
Totals:	7,592	% of All:	65.1%	Totals:	4,076	% of All:	34.9%	11,668

Table 20

Ownership				Rental				
Price Range	# Units	% of Units	Cumulative	Rent	# Units	% of Units	Cumulative	
\$0 - 50k	345	4.2%	4.2%	\$0 - 250	700	16.0%	16.0%	
\$50k - 70k	199	2.4%	6.7%	\$250 - 375	391	9.0%	25.0%	
\$70k - 90k	221	2.7%	9.4%	\$375 - 500	362	8.3%	33.3%	
\$90k - 120k	233	2.9%	12.3%	\$500 - 625	355	8.1%	41.4%	
\$120k - 160k	662	8.1%	20.4%	\$625 - 875	583	13.4%	54.8%	
\$160k - 230k	1,112	13.7%	34.1%	\$875 - 1,250	719	16.5%	71.2%	
\$230k - 350k	1,720	21.1%	55.2%	\$1,250 - 1,875	887	20.3%	91.5%	
\$350k - 460k	1,487	18.3%	73.5%	\$1,875 - 2,500	250	5.7%	97.2%	
\$460k - 690k	1,594	19.6%	93.1%	\$2,500 - 3,750	120	2.8%	100.0%	
\$690k +	565	6.9%	100.0%	\$3,750 +	0	0.0%	100.0%	
Totals:	8,137	% of All:	65.1%	Totals:	4,368	% of All:	34.9%	All Units
								12,506

Source: Forest Grove Economic Opportunity Analysis (2009), Johnson-Reid, LLC

The medium growth scenario shows a total housing unit count 12,506 in Forest Grove by 2028. This total is only 818 more housing units than what is shown in the baseline scenario. At 12,506 housing units, the total population of Forest Grove would be about 33,516 in 2028.

The high growth scenario assumes an average annual rate of growth of 2.6%. This growth rate is somewhat higher compare to what was experienced during the period 2000 to 2008. Under the high growth scenario an additional 13,066 housing units in Forest Grove could be constructed by 2028. With a total of 13,066 housing units the population of Forest Grove would be approximately 35,016. This is an increase of 63% over the current population of 21,465.

Table 21

Source: Forest Grove Economic Opportunity Analysis (2009), Johnson-Reid, LLC

Ownership				Rental				
Price Range	# Units	% of Units	Cumulative	Rent	# Units	% of Units	Cumulative	
\$0 - 50k	360	4.2%	4.2%	\$0 - 250	732	16.0%	16.0%	
\$50k - 70k	208	2.4%	6.7%	\$250 - 375	409	9.0%	25.0%	
\$70k - 90k	231	2.7%	9.4%	\$375 - 500	378	8.3%	33.3%	
\$90k - 120k	243	2.9%	12.3%	\$500 - 625	371	8.1%	41.4%	
\$120k - 160k	691	8.1%	20.4%	\$625 - 875	609	13.4%	54.8%	
\$160k - 230k	1,162	13.7%	34.1%	\$875 - 1,250	752	16.5%	71.2%	
\$230k - 350k	1,797	21.1%	55.2%	\$1,250 - 1,875	926	20.3%	91.5%	
\$350k - 460k	1,554	18.3%	73.5%	\$1,875 - 2,500	261	5.7%	97.2%	
\$460k - 690k	1,665	19.6%	93.1%	\$2,500 - 3,750	126	2.8%	100.0%	
\$690k +	590	6.9%	100.0%	\$3,750 +	0	0.0%	100.0%	
Totals:	8,502	% of All:	65.1%	Totals:	4,564	% of All:	34.9%	All Units
								13,066

Housing Vacancy Rates

The City of Forest Grove does not routinely track housing vacancy rates. However, the Washington County Comprehensive Housing Affordability Strategy (CHAS) provides estimates overall housing vacancy rates for cities. The overall estimated vacancy rate for Forest Grove in 1990 was 3.1% rising to

5.5% in 2000. In contrast, the housing vacancy rate for Washington County was 4.6% in 1990 rising to 5.5% in 2000. The Metro Multifamily Housing Association noted an increase in rental vacancy rates of 2.8% from fall 2008 to 3.2% during spring 2009. Vacancy rates may be higher due to the severe downturn in the housing market slowing the absorption of newly constructed housing units.

Housing Costs

Median monthly housing costs for Forest Grove in 2000 amounted to approximately \$614 for rental units and \$1,183 for owner-occupied units. In contrast housing costs for Washington County as a whole amounts to \$720 for rental and \$1,358 for owner-occupied units. The median cost in 2007 for housing in Forest Grove increased to \$679 for rental units and fell slightly for owner-occupied units to \$1,085.

The percentage of housing units considered cost-burdened increased dramatically between 1990 and 2000. Cost-burden is defined as a household spending 30% or more of income on rent or housing costs. In 1990, approximately 29% of all households in Forest Grove were considered to be cost-burdened. The percentage increased to 36.6% of all households in 2000. Approximately 51% of all renter-occupied households in Forest Grove were considered cost-burdened in 2000. This is more than 13 percentage points higher than the percentage of renter-occupied households in Washington County identified as being cost-burdened which was reported at 37.6% in 2000. Forest Grove has the third highest incidence of cost-burden for renter-occupied households in Washington County behind King City and Durham.

Reasons for the level of cost-burden include the significant student population in Forest Grove. The relatively low household incomes and corresponding high level of poverty is another factor contributing to cost issues.

For owner-occupied housing units the cost picture is much better. Approximately 23% of owner-occupied households fall into the cost-burdened category. In contrast, the percentage of cost-burdened owner-occupied housing units in Washington County as-a-whole is approximately 24.2%. Forest Grove ranks near the top of owner-occupied housing affordability. Out of thirteen cities, Forest Grove has the eleventh highest incidence of owner-occupied cost burden in Washington County in 2000 according to the Washington County Comprehensive Housing Affordability Strategy (CHAS).

System development charges are a factor influencing the cost of housing. Such charges are somewhat higher in Washington County than other areas of the Portland region and state. This is especially true with the implementation of the new transportation development tax (TDT) passed by voters in 2008. Under the TDT, the rate for a single family dwelling is \$4,599. The rate for a multiple family unit is \$2,896 per unit.

Housing Rehabilitation

Forest Grove has a significant existing stock of older single family homes and multifamily housing units. The map attached to this report titled “City of Forest Grove, Building Construction Dateline” shows the age of structures based on the year of construction. Many of these structures are located in the historic neighborhoods surrounding the Forest Grove Town Center and Pacific University. The City of Forest Grove has a program to assist the owners of designated historic structures with rehabilitation of their properties.

The American Community Survey data for 2005-2007 indicates that approximately 27% of all owner-occupied and 22% of renter-occupied housing units in Forest Grove were constructed prior to 1960. This amounts to 1,114 owner-occupied and 643 renter-occupied units that are potential candidates for rehabilitation. An inherent challenge to the rehabilitation of older structures is code compliance.

Consideration of Housing Types

Manufactured housing and government assisted residential units are important components contributing to the supply of affordable housing in the community. As of 2008, Forest Grove has approximately 675 manufactured homes. The Washington County CHAS reports that Forest Grove has the highest number of mobile homes, trailers and RVs within city limits in Washington County. Approximately 10% of the housing stock in Forest Grove falls into this housing category.

The CHAS also indicates that the number of persons with special needs increased from 165 persons in 1990 to 581 persons in 2000 an increase of 250% over the ten-year period. The CHAS also indicates the number of persons with self-care limitations increased from 79 in 1990 to 461 persons in 2000. This represents an increase of over 480%. If these trends continue there will be a continued demand for housing to accommodate special needs populations.

Student housing is an important consideration for Forest Grove. There will likely be a greater demand for on-campus student housing as Pacific University proceeds with their master plan. Pacific University estimates that on-campus residents may be grow from about 700 today to about 1,360 over the next fifteen years. The University's goal is that 80 to 85% of all students enrolled in the College of Arts and Sciences will live in campus-owned facilities. The need for off-campus housing may diminish as additional on-campus housing options are provided to students. In addition, the need for off campus housing may diminish since Pacific University moved their advanced degree programs from Forest Grove to Hillsboro. Pacific University's undergraduate programs will remain in Forest Grove.

Growth Capacity Estimates

Based on the recently completed economic opportunity analysis, buildable land inventory and residential land study, approximately 4,700 additional dwelling units could be accommodated within the existing urban growth boundary.

Table 22

Unconstrained/Vacant Parcel Yield	2,585 units
Redevelopment and Infill Yield	2,115 units
Total Unit Yield	4,700 units

Source: City of Forest Grove, Planning Division

Of the 4,700 units identified above approximately 2,900 are projected to single family attached or multiple family units. Approximately 1,800 units are expected to single detached units.

This estimated capacity should be sufficient to meet housing needs during the next twenty-years.

As a result of past trends, Forest Grove is becoming much more of a bedroom community. This trend will likely continue if high technology and "green" industries continue to expand in Hillsboro and other nearby communities. The challenge will be to preserve Forest Grove's historic character under continued development pressures.

Measures to Promote Efficient Use of Residential Land

The Residential Land Study, including the land use inventory and buildable land inventory, provides the basis for preparing policies for residential development within the City of Forest Grove. Policies for residential development will address measures to promote the efficient use of limited residential land

resources. Measure could include removing barriers to construction of needed housing by streamlining permitting process through greater use of technology. Annexing unincorporated territory within the urban growth boundary may also help to promote the efficient use of residential land by reducing the upfront costs associated with bringing land into the city for urban development.

Increasing minimum residential development density requirements is another way to promote the efficient use of residential land within the urban growth boundary. This is especially true if the higher density requirements are also combined with financial incentives such as property tax exemptions for desired development meeting public objectives. Possible areas for increased residential density include the Forest Grove Town Center, along the Pacific Avenue commercial corridor and within transit-oriented station communities. Such actions could delay the need to expand the urban growth boundary beyond the 20-year planning horizon.

Housing Findings

Housing Related Findings

Finding 1: Based on the land use inventory and buildable land inventory the City of Forest Grove could accommodate an additional 4,700 units within the urban growth boundary. With this amount of development the population of Forest Grove could reach 33,665 at build-out.

Finding 2: It appears the current urban growth boundary can accommodate most of the projected residential development need identified for the next 20-years. Johnson-Reid estimates a need of between 3,900 to 5,298 new residential units by the year 2028. The estimated capacity of the urban growth boundary falls within this range.

Finding 3: The estimated urban growth boundary capacity represents approximately 88% of the high growth need.

Finding 4: The population of Forest Grove has grown 77% over the last 20-years.

Finding 5: Forest Grove complies with OAR 660-007 by providing the opportunity for 50% of housing units to be developed with single family attached and multi-family units.

Finding 6: Development density in Forest Grove since 2000 exceeded 8 dwellings units per net acre.

Finding 7: The Forest Grove portion of the Portland regional urban growth boundary has capacity for 4,700 housing units (2,900 single family attached and multiple family units & 1,800 single family housing units).

Finding 8: Upon build-out of the urban growth boundary, the population of Forest Grove will reach 29,394 to 32,916 persons.

Finding 9: Approximately 364 acres of net buildable residential land remains within the urban growth boundary.

Finding 10: The 2000 US Census indicates that the median monthly housing cost for renters in Forest Grove is \$614 per month.

Finding 11: The 2000 US Census indicates that the median monthly housing cost for owner-occupied housing units in Forest Grove is \$1,183 per month.

Finding 12: Based on the 2000 Washington County Comprehensive Housing Affordability Strategy, approximately 37% of all households in Forest Grove are considered cost burdened.

Finding 13: Based on the 2000 Washington County Comprehensive Housing Affordability Strategy, 51% of renter-occupied households are considered cost burdened.

Finding 14: Based on the 2000 Washington County Comprehensive Housing Affordability Strategy, 23% of owner-occupied housing units are considered cost burdened.

Finding 15: Out of 13 cities, Forest Grove has the eleventh highest incidence of owner-occupied cost burden in Washington County

Finding 16: The American Community Survey (2005-2007) indicates that approximately 27% of all owner-occupied and 22% of renter-occupied housing units in Forest Grove were constructed prior to 1960.

Finding 17: Forest Grove has the highest number of mobile homes, trailers and RVs within city limits in Washington County.

Finding 18: Persons with special needs increased from 165 persons in 1990 to 581 persons in 2000.

Finding 19: Pacific University estimates that on campus housing may increase from accommodating 700 persons to accommodating 1,360 persons over the next 15-years.

Finding 20: The City of Forest Grove has measures in place to increase residential density including minimum required densities for residential development and some commercial zones.

Housing Goals and Policies

Goal1: Ensure an adequate supply of developable land to support needed housing types and a complete community

Policy 1.1 Establish the location and density of residential development based on the following factors:

- A. The type and distribution of housing units required to meet projected population needs;
- B. The capacity of land resources given the slope, elevation, wetlands, floodplains, geological hazards, soil characteristics, and urban/rural interface;
- C. Capacity of public services and facilities including but not limited to water, sanitary sewer, fire and police protection and transportation facilities;
- D. Proximity to services including, but not limited to, shopping, employment areas, parks, schools and municipal services. Proximity shall be determined by distance, access, and ability to provide public and private infrastructure service to the site;
- E. Density standards for minimum residential development for new construction established by the Metropolitan Housing Rule (Oregon Administrative Rules (OAR 660-007-0035).

Policy 1.2 Evaluate requests for rezoning from non-residential to residential development zones based on the following factors:

- A. Identified housing needs contained in an adopted Goal 9 analysis;
- B. Ability to provide public facilities to the site in a cost-effective and efficient manner;
- C. Potential of the site to support higher density development;
- D. Site characteristics including topography; and
- E. Land Use location policies of the Comprehensive Plan.

Policy 1.3 Evaluate requests for rezoning from lower density zones to higher density zones based on the following factors:

- A. Identified housing needs;
- B. Ability to provide public facilities to the site in an efficient manner;
- C. The ability of the site to support higher density development; and
- D. Land use location policies of the Comprehensive Plan.

Ability to support higher density development should take into account impact to traffic volumes, ability to provide buffering with less intensive uses, distance to transit service, and site characteristics including topography.

Policy 1.4 Update the City's land use inventory at regular intervals to monitor the supply of developable land.

Policy 1.5 Implement codes and ordinances to encourage the development of passed-over and underutilized land for residential development.

Housing

Goals and Policies

Policy 1.6 Adopt codes that allow for aging in place.

Goal 2: Provide incentives for increased residential development densities within the Forest Grove Town Center and near high capacity transit corridors.

Policy 2.1 Establish incentive programs to leverage local resources with private investments. Incentives may take the form of direct financial participation (grants or loans), or indirect participation such as land write-downs.

Policy 2.2 Evaluate the feasibility of establishing a tax increment financing district or Vertical Housing Development Zone to promote residential and mixed-use development within the Forest Grove Town Center, identified high capacity transit station areas, and mixed-use target areas along the Pacific Avenue commercial corridor.

Policy 2.3 Amend Development Code standards to increase maximum development densities within the Forest Grove Town Center, identified high capacity transit station areas, and mixed-use target areas along the Pacific Avenue commercial corridor.

Goal 3: Promote mixed-use development opportunities throughout the community.

Policy 3.1 Identify locations on the Comprehensive Plan and Zoning maps for mixed-use development opportunities. Establish standards for residential and commercial densities, desired building mix, and building design for mixed-use areas.

Goal 4: Provide and maintain an adequate supply of affordable housing opportunities.

Policy 4.1 Develop and implement programs to offset the increasing cost of new housing construction. Programs may include, but are not limited to, reductions in building permit fees, development impact fees, or property taxes for affordable housing meeting US Department of Housing and Urban Development Low Income Housing Tax Credit program requirements.

Policy 4.2 Promote the provision of housing assistance to low- and moderate-income individuals in Forest Grove through the Washington County Community Development Block Grant and HOME Investment Partnership programs.

Policy 4.3 Develop and implement programs to encourage the rehabilitation of older housing stock throughout the community. Examples of such programs include grants or low-interest loans for weatherization improvements, and grants for the rehabilitation of historic residences.

Policy 4.4 Develop and support partnerships with local Community Development Corporations whose mission it is to construct and rehabilitate affordable housing in Forest Grove. Such support, within budgetary and staffing limitations, may take the form of direct financial assistance or help preparing grant applications for funding affordable housing applications.

Policy 4.5 Implement a program to sell unneeded land owned by the City of Forest Grove for the construction of affordable housing in areas designated for residential development.

Policy 4.6 Continue policies to allow for manufactured dwellings on individual lots outside of designated historic districts and within manufactured home parks.

Goal 5: Develop and implement standards for sustainable neighborhood development.

Policy 5.1 Encourage the use of Leadership in Energy and Environmental Design (LEED) development practices in subdivisions and residential structures.

Policy 5.2 Encourage the use of energy efficient building materials and practices in the design, construction, and remodeling of housing.

Goal 6: Promote neighborhoods complete with residences, open space, schools, parks, and shopping opportunities within close proximity to each other. Avoid stand-alone residential developments lacking support activities.

Policy 6.1 Designate small-scale neighborhood-oriented commercial areas within walking distance of residential areas.

Policy 6.2 Locate parks to maximize access by neighborhood residents.

Goal 7: Provide for the preservation of neighborhoods, housing types and lot sizes.

Policy 7.1 Maintain the existing residential housing stock in established neighborhoods by retaining single family residential comprehensive plan and zoning designations.

Policy 7.2 Restrict the further division of residential property within established historic districts.

Policy 7.3 Ensure that infill development retains the character of established residential neighborhoods through the use of building materials and design representative of adjacent properties.

Goal 8: Create opportunities to retrofit single use commercial and retail developments into walkable, mixed-use communities.

Policy 8.1 Facilitate the financing of mixed-use development projects through tax increment financing or other financial incentive programs.

Goal 9: Preserve the stability of residential neighborhoods through code enforcement actions intended to rid areas of nuisances.

Policy 9.1 Establish a multifamily residential unit inspection program to ensure compliance with the City codes.

Chapter 6

Economic Development

This chapter is divided into four major sections:

- General introduction explaining state and regional policies affecting local economic development efforts;
- Economic profile for Forest Grove;
- Specific findings based on the City's economic profile and economic opportunity analysis; and
- Goals and policies for economic development activities in the City of Forest Grove.

Section 1: Introduction

A complete community provides employment opportunities for local residents. The community must maintain and strengthen its employment base to ensure the health of its overall economy. The community must provide adequate space of commercial and industrial expansion and utilize its natural and human resources to the fullest. Provision of a diversified group of business and industry which offer a wide range of employment opportunities will help strengthen the local economy.

Economic development assessment is required by State Planning Goal 9. Along with Residential assessment addressed by Goal 10, it establishes the basic future land needs for the community. More importantly, planning for economic growth is an essential task to maintain a healthy city. Such growth is needed to provide an economic base for the community that supplies job opportunities for its residents as well as help maintain the tax base needed to sustain public services to the citizens and businesses in the city.

This economic development element is based on the assessment and analysis prepared by Johnson – Reid Consultants. That analysis was part of a broader economic development assessment for the five communities in western Washington County including the cities of Hillsboro, Cornelius, Banks, North Plains and Forest Grove. It is based on the data sets identified in their report as well as focus group discussions with various stakeholders in the community.

Local Context

The area of western-Washington County, now known as Forest Grove, was first settled during the 1840s. Forest Grove became an incorporated city in 1872 and grew around the Tualatin Academy which became Pacific University. Prior to incorporation, farming was the predominant occupation in Forest Grove. By the 1870s, the community started to diversify with 33% of the population engaged in farming. Merchants,

Economic Development

craftsman and professionals working at the Tualatin Academy made up the rest of the working population.

Today Forest Grove covers a land area of approximately five square miles. In addition, Forest Grove businesses provide approximately 9,100 jobs for the region based on the economic opportunity analysis prepared for the City. The local economy includes concentrations of food and beverage processing, value-added wood products, high-tech industry, education and health care. The largest employer in Forest Grove is Viasystems a manufacturer of computer circuit boards. Viasystems employs approximately 1,400 persons.

Forest Grove has experienced considerable growth during the past twenty years. The population of Forest Grove in 1990 was about 13,559 persons. In 2010, the population grew to 21,083 persons. This represents an increase of 55% over the twenty-year period. Much of the City's increase in population parallels employment growth in western-Washington County.

Historically, Forest Grove has been a complete community with education, housing and employment areas. Over the past twenty-years, however, the City has been evolving into a bedroom community. This trend will be exacerbated without adequate sites for employment and other activities.

The City of Forest Grove is served by several key transportation corridors. The primary east-west transportation connection is Oregon Highway 8 linking Forest Grove with Hillsboro and Beaverton to the east. The primary north-south transportation corridor is Oregon Highway 47 connecting Forest Grove with Banks to the north and Yamhill County to the south. Forest Grove is also served by Martin Road linking Forest Grove with the Sunset Highway (US 26) corridor via Verboort Road, Cornelius-Schefflin Road and Glencoe Road. In addition to the road network, Forest Grove is also served by TriMet Line 57 which generally follows the Tualatin Valley Highway. TriMet Line 57 provides frequent bus service from Forest Grove to Hillsboro and Beaverton.

Forest Grove's development pattern includes a compact Town Center near the main campus of Pacific University, a commercial corridor along Pacific Avenue, and industrial areas in the northeastern and far southern parts of the community. Although Forest Grove includes commercial and industrial lands, Forest Grove is continuing to evolve into a residential community if present trends continue. Approximately 1,600 acres of land is developed in Forest Grove with housing. This represents approximately two-thirds of the City's developed land area based on the land use inventory. Another 206 acres is currently developed for industrial activities. Commercial uses account for about 227 acres of the developed land area as shown by the chart below.

Forest Grove is also characterized by several significant natural features. These features include the Gales Creek and Tualatin River floodplains, Council Creek, Fern Hill wetlands and David Hill in the Coast Range foothills. Forest Grove's urban forest is also a defining element for the community.

Significant built features providing a sense of place for Forest Grove include the historic Forest Grove Town Center, including many of the original homesteads, the Clark and Painter Woods historic districts and the main campus of Pacific University.

Forest Grove Vision and Local Aspirations Related to Economic Development

The City completed a visioning process in 2007. This visioning process provided the framework of local aspirations developed to ensure that Forest Grove remains a complete community. In general, Forest Grove aspires to:

- ✓ Retain the vitality of its historic town center and surrounding historic neighborhoods. This will be achieved by promoting appropriate densities to ensure compatible future development patterns within the City's historic neighborhoods;

- ✓ Promote job opportunities where local residents have the ability to find work close to home thereby reducing commute times and travel costs;
- ✓ Plan for an adequate supply of industrial sites necessary to meet industry needs;
- ✓ Increase development densities in select areas near transportation corridors to support high capacity transit options including commuter or light rail; and
- ✓ Implement development regulations to encourage development within key nodes along the Pacific Avenue commercial corridor including opportunities for mixed-use development.

Local Policy Framework

In addition to the EOA, this chapter is based on several policy documents. These documents include the Forest Grove Vision Statement and 2007 Action Plan, Forest Grove Downtown Resource Team Report (2007), and Forest Grove Commercial Corridor Plan (2005). In addition, the City's Economic Development Strategic Plan provides a solid foundation for the goals and policies of this chapter. Where relevant, the policy recommendations of this chapter include a notation indicating the policy document relied upon.

Oregon Statewide Planning Goal 9: Economic Development

Statewide Planning Goal 9 provides a framework for ensuring that there are adequate opportunities for a variety of economic activities vital to the health, welfare and prosperity of Oregon's citizens. State law requires that local comprehensive plans be consistent with Goal 9. Under Goal 9, comprehensive plans for urban areas must include an analysis of economic patterns as they relate to state and national trends. Furthermore, comprehensive plans must contain policies concerning the economic development opportunities in the community and provide for an adequate supply of sites of suitable sizes, types, locations, and service levels for a variety of industrial and commercial uses consistent with plan policies.

To ensure compliance with Goal 9, the City of Forest Grove retained the consulting firm of Johnson-Reid, LLC to prepare an economic opportunity analysis (EOA). The EOA identifies major state and national trends affecting economic development opportunities in Forest Grove and western-Washington County. In addition, the EOA documents stakeholder outreach, employment forecasts and estimated land needs for the next twenty-years.

Metro Requirements

In addition to statewide planning goals, local comprehensive plans must be consistent with regional growth goals and objectives. Regional growth goals and objectives are identified in the Metro Urban Growth Management Functional Plan. The Functional Plan implements the Metro Region 2040 Growth Concept.

The following functional plan titles address economic development issues:

- Title 1: (Requirements for Housing and Employment Accommodation;
- Title 4: (Industrial and Employment Areas); and
- Title 6 (Central City, Regional and Town Centers and Station Communities)

One goal of the Metro Growth Management Functional Plan is the efficient use of land. Title 1 intends to promote the use of land within the UGB efficiently by increasing land development capacity. This is achieved by taking action to accommodate a City's share of regional growth.

Title 4 of the Metro Function Plan seeks to provide and protect a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas, Industrial and Employment areas. Title 4 also seeks to provide the benefits of "clustering" to those industries that operate more productively and efficiently in proximity to one another. Title 4 also encourages the location of employment in Centers, Main Streets and Station Communities.

The Region 2040 Growth Concept is based on a strong central city as well as strong regional and town centers and transit-oriented station communities. Title 6 serves to advance this concept by encouraging concentrated mixed-use development within these areas.

Section 2: Forest Grove Economic Profile and Economic Opportunity Analysis

Table 1 shows population and annual average growth rate of Forest Grove by decade beginning from 1880 to 2010. In 2010, the estimated population of Forest Grove was approximately 21,083 persons.

Table 1. Population and Growth by Decade

		AVERAGE
		ANNUAL
		GROWTH
YEAR	POPULATION	RATE
1880	547	---
1890	668	2.21%
1900	1,096	6.41%
1910	1,772	6.17%
1920	1,915	0.81%
1930	1,859	-0.29%
1940	2,449	3.17%
1950	4,343	7.73%
1960	5,628	2.96%
1970	8,275	4.70%
1980	11,499	3.90%
1990	13,559	1.79%
2000	17,708	3.06%
2010	21,083	1.91%

Source: US Census

Table 2 Historical Population Data

**Forest Grove Population
1988 to 2010**

Year	Population	Number	Percentage Increase
1988	12,120		
1989	12,180	60	0.50%
1990	13,559	1,379	11.32%
1991	13,830	271	2.00%
1992	14,010	180	1.30%
1993	14,175	165	1.18%
1994	14,295	120	0.85%
1995	14,755	460	3.22%
1996	15,370	615	4.17%
1997	15,965	595	3.87%
1998	16,170	205	1.28%
1999	16,275	105	0.65%
2000	17,708	1,433	8.80%
2001	18,380	672	3.79%
2002	18,520	140	0.76%
2003	19,130	610	3.29%
2004	19,200	70	0.37%
2005	19,565	365	1.90%
2006	20,380	815	4.17%
2007	20,775	395	1.94%
2008	21,465	690	3.32%
2009	21,500	35	0.02%
2010 ²⁴	21,130	-370	-1.7%

Source: Portland State University, Center for Population Research and Census

The decline in the population estimate between 2009 and 2010 is best explained by a recalibration of the July 1, 2010 population estimate based on the official April 1, 2010 decennial Census number.

²⁴ July 1, 2010, Population Research Center, Portland State University

Table 3 Forest Grove Socio-Economic Indicators

Sources: US Census Bureau, City of Forest Grove, Planning Division

Sector	Establishments	Percentage	Est	Percentage	Location Quotient
Manufacturing	39	13.3%	763	7.9%	1.7
Wholesale Trade	9	3.1%	1,093	11.4%	0.3
Retail Trade	46	15.6%	1,457	15.2%	1.0
Information	5	1.7%	294	3.1%	0.6
Real Estate	19	6.5%	631	6.7%	1.0
Professional/Technical	27	9.2%	1,494	15.5%	0.6
Administrative	18	6.1%	756	7.9%	0.8
Educational	2	0.1%	105	1.1%	0.1
Health and Social	56	19.0%	1,239	12.9%	1.5
Entertainment/Recreation	4	1.4%	150	1.6%	0.9
Accommodation and Food Service	43	14.6%	899	9.4%	1.6
Other Services	26	8.8%	732	7.6%	1.2
Total	294	100%	9,613	100%	
FG		Wash Co			
Median HH Income	\$41,651			\$60,254	
Median Family Income	\$53,239			\$73,642	
Family Poverty Rate	15.5%			6.8%	
Families with children <18	24.3%			9.9%	
Families with Children <5	33.7%			10.5%	
Educational Attainment (Persons 25+)	11,460	100%		337,190	100%
Less than 9 th Grade	872	7.6%		15,410	4.6%
9 th to 12 th no diploma	1,081	9.4%		18,087	5.4%
High school grad	3,221	28.1%		69,660	20.7%
Some college	2,881	25.1%		81,357	24.1%
Associates Degree	810	7.1%		26,458	7.8%
Bachelor's Degree	1,728	15.1%		82,668	24.5%
Graduate or professional degree	867	7.6%		43,530	12.9%

Table 4 Comparison of Occupations in Forest Grove and Washington County

Source, City of Forest Grove, Planning Division, Economic Opportunity Analysis (2009), Johnson-Reid, LLC

	Forest Grove		Wash Co		Location Quotient
Civilian Employed Population	9,180	100%	263,330	100%	
Management/Professional	2,730	29.7%	104,063	39.5%	0.8
Service Occupations	1,939	21.1%	38,474	14.6%	1.4
Sales and Office	2,221	24.2%	70,250	26.7%	0.9
Farming, Fishing, Forest	299	3.3%	3,994	1.5%	2.2
Construction & Repair	611	6.7%	18,128	6.9%	1.0
Production, Transport	1,380	15.0%	28,421	10.8%	1.4

Table 4 above shows how residents are employed in Forest Grove and Washington County. The column furthest to the right shows whether Forest Grove has a higher or lower concentration of employed residents in various occupations. A number below 1.0 show a lower concentration compared with Washington County. A number above 1.0 indicates that Forest Grove has a higher concentration of residents engaged in these activities than Washington County as a whole. The most prevalent occupations for Forest Grove residents include management and professional activities followed by sales and service. However, when compared with Washington County, the city has slightly fewer persons in the management and professional and sales and office occupations and has substantially a higher amount of persons involved with natural resource (farming, fishing and forestry) occupations. As further economic development occurs not only in Forest Grove but also in nearby communities (particularly Hillsboro), staff anticipates that management/professional and sales/office occupations will increase faster in the future than other occupations.

The poverty rate for families in Forest Grove is more than twice the poverty rate of families in Washington County as a whole. This points to a need for family wage jobs in Forest Grove.

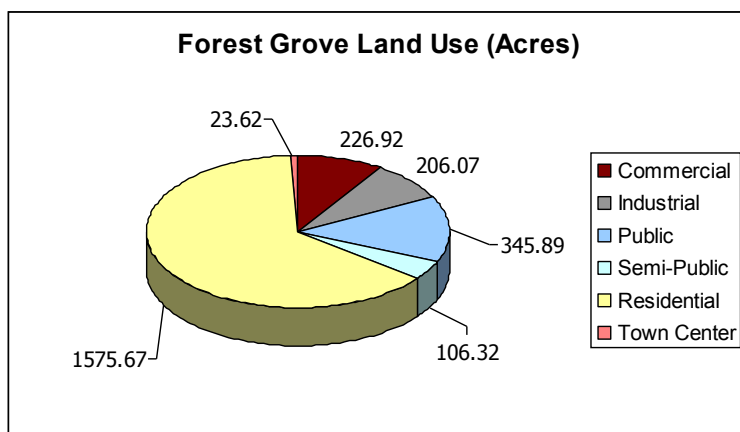
This incidence of poverty in Forest Grove for families with children less than five years old is more than three times higher than for families with children less than five years old in Washington County as a whole.

With respect to families with children 18 years of age and younger, the incidence of poverty in Forest Grove is more than 2.5 times higher than the rate in Washington County as a whole.

Table 9 below shows historical employment trends over the past 27 years. The data suggests that the civilian labor force in Forest Grove has increased significantly since 1980. Since that time the civilian labor force has increased about 80% from 5,471 to 9,851 persons in the labor force in Forest Grove. Over that same period population in Forest Grove increased by about 70%.

Land Use Inventory

The chart below shows the distribution of land use within the City of Forest Grove. This is based on a land use inventory completed by staff in 2008. Approximately 8.3% of the developed land area in the City can be classified as industrial. This includes the Light and General Industrial zoning designations. Approximately 10.1% of the city's developed land area is classified as commercial. This includes the Forest Grove Town Center.



Source: City of Forest Grove Planning Division, Land Use Inventory (2011)

Buildable Land Inventory Results (Acres)

Land Use Designation	Acres
Commercial	43.52
Commercial Planned Development	2.05
Town Center	0.67
Industrial	230.04

Source: City of Forest Grove Planning Division

Demand for Employment Lands 2008 to 2028 (Gross Acres)

Use Type	Need For Land (Acres) By Scenario:		
	Baseline Growth	High Growth	Medium Growth
OFFICE COMMERCIAL	55.8	70.7	64.7
INDUSTRIAL	141.9	254.6	209.4
RETAIL COMMERCIAL	96.9	141.7	126.4
CITY RESIDENTS	77.5	113.4	101.1
REGION/TOURISTS 1/	19.4	28.3	25.3
OVERNIGHT LODGING	14.6	15.8	15.3
SPECIALIZED USES 2/	79.7	81.6	80.8
TOTAL	389.0	564.4	496.7

1/ Based on current ratios between locally supported and total sales, CE Survey from the BLS and Census of Retail Trade.

2/ Hospitals, Clinics, etc. for employment not otherwise categorized.

SOURCE: Johnson Reid

For Table 6, Baseline growth includes that expected for the community without the influence of potential growth due to the influence of industrial clusters developing in Hillsboro. The High and Medium growth scenarios include the opportunity for Forest Grove to capture some of the sub-regional growth due to the development industrial clusters in Hillsboro. The primary clusters include continued growth of high tech and emerging clusters of solar and biotech.

Table 7 compares the supply of land to the projected 20 year demand taken from Tables 5 and 6. The greatest need for land is for commercial use. Conversely, industrial land is projected to be a surplus. As will be discussed later, there are however, some specific needs for larger lots for industrial development which this analysis does not consider. Notwithstanding the parcel size issue, Table 7 suggests that the City should consider converting or using some of its industrial land for commercial use, particularly to address the office commercial need.

Employment Land Need

Source: City of Forest Grove, Economic Opportunity Analysis (2009), Johnson-Reid, LLC

	Commercial			Industrial		
	Baseline	Medium	High	Baseline	Medium	High
Demand	167.3	206.4	228.2	141.9	209.4	254.6
Supply	46.24	46.24	46.24	230.04	230.04	230.04
Need	121.06	160.16	181.96	(88.14)	(20.64)	24.56
Commercial includes Office, Retail and Overnight Lodging						
Numbers in parenthesis show over supply						

Employment Profile

The table below shows the top ten employers in the City of Forest Grove. The largest employer, by far, is Viasystems. Pacific University has the second highest employment in the City.

Forest Grove's Largest Employers

Firm	Industry	Employees
Viasystems	Circuit Board Mfg.	850
Pacific University	Education Services	485
Forest Grove School Dist.	Education Services	461
Stimson Lumber	Timber/Plywood	450
Jennings McCall Center	Senior Housing/Services	166
City of Forest Grove	Government	150
Woodfold	Door Manufacturer	115
Westak	Circuit Board Mfg.	100
Safeway	Retail Grocer	100
Oregon Roses	Plant/Flower	90

Source: City of Forest Grove Economic Development Division

The City of Forest economic profile is generally characterized by manufacturing, education and health services which account for over 60% employment in the city. The largest private employer in Forest Grove is Viasystems. The largest public employer is the Forest Grove School District.

Between 2002 and 2007, the City of Forest Grove's employment grew very modestly at approximately 4.3%. Forest Grove experienced its strongest job growth in manufacturing (+143 jobs) and education and health services (+80 jobs). Forest Grove lost roughly 140 jobs in natural resources, information and professional and business services combined.

The City of Forest Grove's highest paid industries are wholesale trade and natural resources followed by manufacturing and construction. Its lowest paid industries are leisure and hospitality and retail trade.

The table below shows labor force trends between 1980 and 2007. In 1980, just over 5,000 persons were employed in Forest Grove. In 2007, the number of employed persons increased to over 9,000 persons.

Forest Grove Labor Force and Population Trends

Employed Residents – Forest Grove – Age 16 years and Older								
	1980		1990		2000		2007	
Civilian Labor Force								
Total (percent increase)	5,471		6,384	16.7%	8,696	36.2%	9,851	13.3%
Employed	5,069		5,990		8,004		9,180	
Unemployed (percent of total labor force)	402	7.3%	394	6.2%	692	8.0%	671	6.8%
Population								
Total (percent of labor force to total population)	11,499	47.6%	13,559	47.1%	17,708	49.1%	19,532	50.4%
16 years and older	8,811		10,302		13,137		14,554	
Source: U.S. Census for decennial; 2005-07 American Community Survey 3-Year Estimates								

A jobs-to-household ratio is applied to represent the number of available jobs in an area per household. Generally, a higher jobs-to-housing ratio represents a more robust local employment and economic environment, as it represents the amount of business activity taking place in the community. The jobs-to-household ratio is a commonly-used indicator of whether there is a sufficient amount of housing to support area employment, and vice versa.

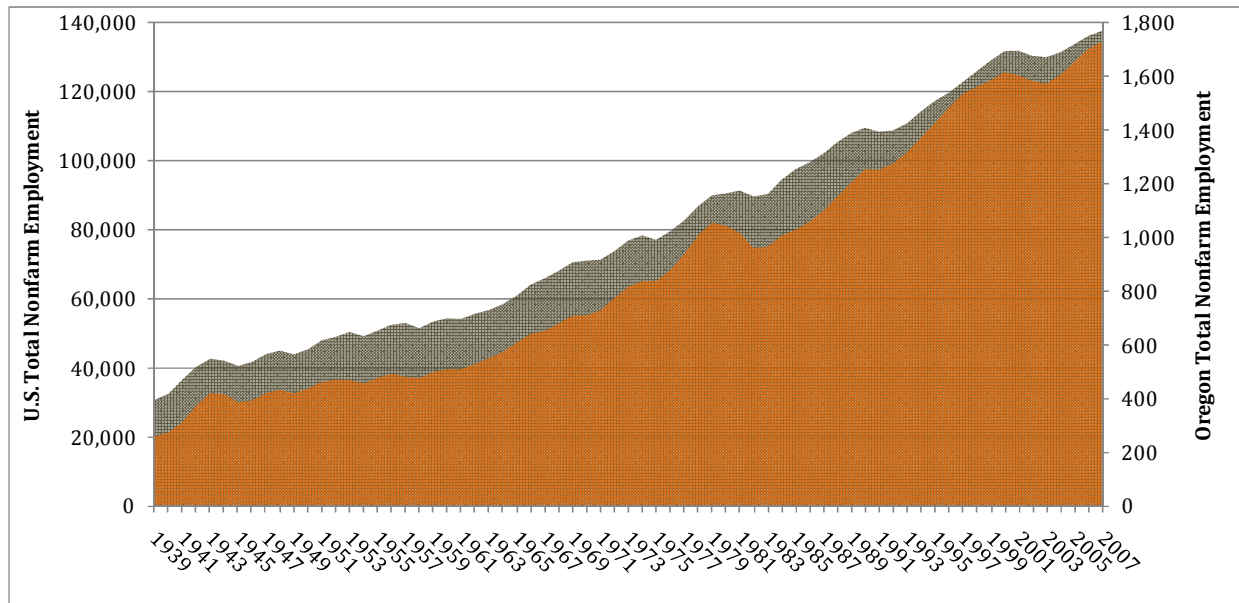
The economic opportunity analysis prepared for Forest Grove estimates a current jobs/household ratio in Forest Grove is 1.25. This is considered to be a relatively low level of employment opportunities in the community for each household. Based on the latest Census data, there are currently enough Forest Grove residents in the labor force to support a jobs-to-housing ratio of 1.40. In other words, Forest Grove does not currently offer enough local employment to meet the job demand of current residents. As a result Forest Grove residents must commute to other areas to find employment.

The economic opportunity analysis assumes future jobs/household ratio of 1.5. This implies that there will be more available jobs per household in Forest Grove. This assumption results from examining western Washington County in a sub-regional context. In particular, the finding from the Economic Opportunities Analysis that some high-tech and related manufacturing employment is likely to spread beyond its historical base in the Hillsboro area to the surrounding communities, such as Forest Grove.

The use of 1.5 jobs to households represents the assumptions that more residents of Forest Grove will be employed locally, rather than commute for employment. Applying a *lower* jobs/household ratio results in the need for *more* housing, and implies that more of the residents of that housing are commuting to employment.

US and Oregon Employment Trends

Oregon's economy closely tracks national trends. The chart below illustrates this point. Since 1939, Oregon has generally tracked the peaks and valleys of the U.S. Economy. As such macro-economic trends affecting the nation also impact Oregon.



Source: City of Forest Grove, Economic Opportunity Analysis (2009), Johnson-Reid, LLC

A bright spot for Forest Grove is the increase in the private education and health services sectors which posted gains during 2008.

Analysis of Economic Activity

Employment Estimate by Sector

NAICS	2007 Total Employment	Short-Term Annual Growth Assumption 2/	2008 Total Employment Estimate
Natural Resources	937	0.0%	937
Construction	451	-6.9%	420
Manufacturing	2,325	-5.5%	2,197
Wholesale Trade	67	0.0%	67
Retail Trade	608	-1.3%	600
T.W.U. 1/	155	0.0%	155
Information	30	2.5%	30
Financial Activities	255	-5.8%	240
Professional & Business	276	-3.7%	266
Education & Health	2,991	-0.4%	2,979
Leisure & Hospitality	663	1.0%	670
Other Services	357	-2.6%	348
Public Administration	180	0.9%	182
TOTAL	9,296	-2.2%	9,092

1/ Transportation, Warehousing, & Utilities

2/ Assumes that growth in Forest Grove roughly tracks Washington County between 2007 and 2008

Source: JOHNSON REID

Baseline Employment Growth Forecast

Baseline Growth Forecast NAICS	Base Year	Employment Forecast					2008-2028 Growth	
	2008	2013	2018	2023	2028		Jobs	AAGR
Natural Resources	937	937	937	937	937		0	0.0%
Construction	420	475	528	595	656		236	2.3%
Manufacturing	2,197	2,572	2,945	3,426	3,888		1,691	2.9%
Wholesale Trade	67	73	79	87	93		26	1.7%
Retail Trade	600	680	757	854	944		343	2.3%
T.W.U.	155	176	195	220	243		89	2.3%
Information	30	33	35	38	41		10	1.5%
Financial Activities	240	264	286	313	337		97	1.7%
Professional & Business	266	344	428	546	670		404	4.7%
Education & Health	2,979	3,460	3,933	4,540	5,118		2,139	2.7%
Leisure & Hospitality	670	783	896	1,041	1,180		510	2.9%
Other Services	348	380	410	446	479		131	1.6%
Public Administration	182	199	216	235	253		72	1.7%
TOTAL	9,092	10,377	11,646	13,278	14,840		5,748	2.5%

SOURCES: Oregon Employment Department Regional Forecasts, Oregon ES-202 reports, Local Interviews, and JOHNSON REID

Alternative Growth Forecasts by Sector (2008 – 2028)

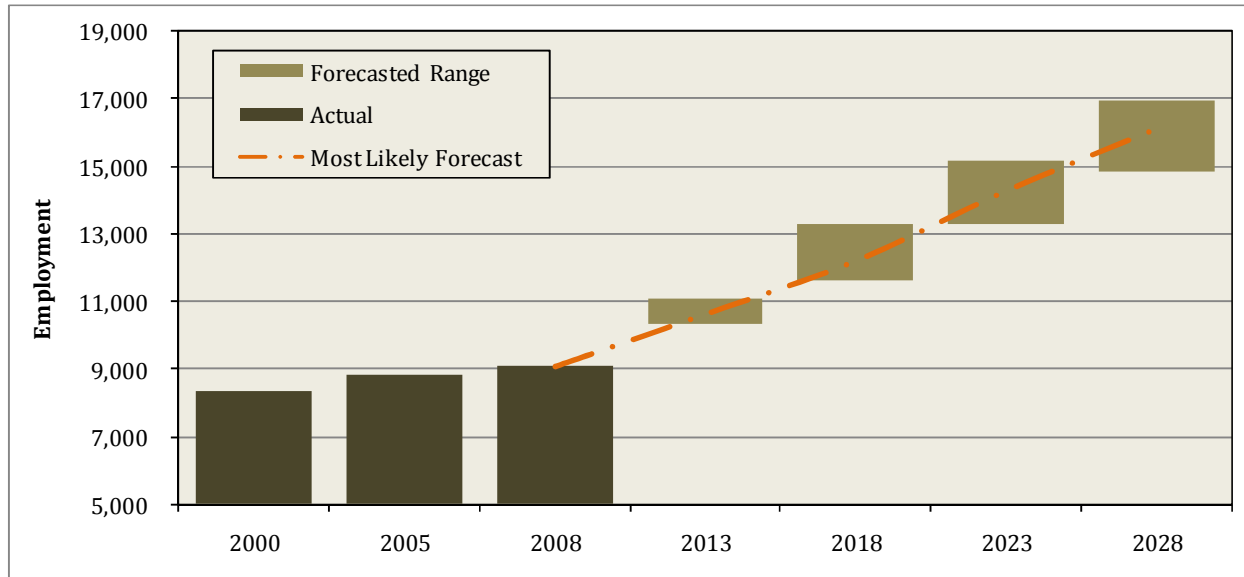
High Growth Forecast	Base Year	Employment Forecast				2008-2028 Growth	
NAICS	2008	2013	2018	2023	2028	Jobs	AAGR
Natural Resources	937	937	938	938	938	1	0.0%
Construction	420	477	531	598	660	240	2.3%
Manufacturing	2,197	3,108	4,194	4,825	5,455	3,258	4.7%
Wholesale Trade	67	80	96	106	115	48	2.7%
Retail Trade	600	694	789	891	987	386	2.5%
T.W.U.	155	181	207	234	259	104	2.6%
Information	30	41	55	61	67	36	4.0%
Financial Activities	240	270	301	331	358	118	2.0%
Professional & Business	266	443	657	815	979	712	6.7%
Education & Health	2,979	3,476	3,970	4,582	5,167	2,187	2.8%
Leisure & Hospitality	670	797	926	1,077	1,221	551	3.0%
Other Services	348	389	430	470	506	158	1.9%
Public Administration	182	200	218	239	257	75	1.7%
TOTAL	9,092	11,093	13,313	15,166	16,968	7,876	3.2%

Medium Growth Forecast	Base Year	Employment Forecast				2008-2028 Growth	
NAICS	2008	2013	2018	2023	2028	Jobs	AAGR
Natural Resources	937	937	937	938	938	1	0.0%
Construction	420	476	529	596	659	239	2.3%
Manufacturing	2,197	2,766	3,364	4,163	4,827	2,630	4.0%
Wholesale Trade	67	76	85	97	106	39	2.3%
Retail Trade	600	686	769	874	969	369	2.4%
T.W.U.	155	177	200	228	253	98	2.5%
Information	30	36	42	50	56	26	3.1%
Financial Activities	240	266	291	322	350	110	1.9%
Professional & Business	266	382	510	691	855	588	6.0%
Education & Health	2,979	3,466	3,946	4,563	5,147	2,168	2.8%
Leisure & Hospitality	670	789	907	1,060	1,205	535	3.0%
Other Services	348	384	417	459	495	147	1.8%
Public Administration	182	200	217	237	256	74	1.7%
TOTAL	9,092	10,639	12,214	14,279	16,115	7,023	2.9%

SOURCES: Oregon Employment Department Regional Forecasts, Oregon ES-202 reports, Local Interviews, and JOHNSON REID

This analysis of potential economic growth assumes Forest Grove has the ability to capture 15% of regional economic activity created by the emergence of solar and biotechnology clusters outlined in JOHNSON REID'S Hillsboro analysis. This methodology translates into an additional 1,275 to 2,128 jobs beyond the baseline capture forecast presented in Figure 17.

Employment Forecast 2028



Source: City of Forest Grove, Economic Opportunity Analysis (2009), Johnson-Reid, LLC

The alternative forecasts have the greatest impacts on the manufacturing sector, of which the majority of direct employment in the emerging cluster is expected to be concentrated. Additionally, Professional & Business Services also displays a notable up tick under the alternative scenarios, with an increase of 588 to 712 new jobs over the forecast period.

Analysis of Economic Area

Forest Grove's economic area covers an area well in excess of the city limits. In addition, the map shows the boundaries of the Forest Grove School District, Forest Grove Fire District and Light and Power District. In general, Forest Grove's economic area includes an area just south of Banks in the north and Gaston in the south. The Forest Grove economic area also includes the Gales Creek and Verboort unincorporated communities.

Analysis of Forest Grove Economic Activity

Cluster of traded sector employment is an important issue for the State of Oregon.

Over the past twenty-years, the area of western-Washington County has been evolving into a high technology cluster. Washington County accounts for nearly 66% of statewide employment in the high technology sector. The high technology in Washington County is located in and around the City of Hillsboro. Forest Grove's proximity to Hillsboro and Oregon's largest high technology manufacturing center provides considerable opportunity for Forest Grove.

Challenges with respect to Forest Grove capitalizing on the sector include limited supply of shovel ready/large industrial parcels. In addition, Forest Grove's workforce composition does not match the needs of high technology firms. Another challenge surrounds the relative uncertainty with respect to the future cost of utility rates.

Although there are challenges, Forest Grove has a comparative advantage in a number of areas including health care, education, agricultural and food processing, and retirement services.

Health Care

Health Care is another economic cluster in Washington County. Washington County has the second largest share of health care in the state as measured by employment. Washington County accounts for 11.7% or 21,166 employees. In Forest Grove, the industry has remained stable over the past five years with little change since 2002. Forest Grove is unique among Washington County jurisdictions as the majority of healthcare employment is concentrated in nursing and residential care facilities. This reflects the City's considerable retirement age population.

Solar and Photovoltaic Manufacturing

Oregon has witnessed considerable growth in recent years in solar photovoltaic manufacturing. Hillsboro has been very successful recruiting companies in this sector. Oregon is projected to add nearly 15,000 jobs in this sector by 2028 with most expected to occur by 2018. Considerable ancillary benefits are likely to impact the entire region as suppliers vendors and support services find expanded opportunities in the region of which Forest Grove is well positioned to recruit.

High-tech

High tech manufacturing represents an opportunity for Forest Grove. According to the City's economic opportunity analysis, the concentration of employment in High-Tech in Forest Grove is better than 15 times the national average. While circuit board manufacturing is a significant part of the existing local economy, its share of growth is not likely to be high. High-tech growth in Forest Grove is likely to result from firms that are connected to the cluster of high-tech industries centered in Hillsboro. Given Forest Grove's proximity to Hillsboro, the City is in a good position for capturing economic growth in semiconductor and solar component manufacturing.

Agriculture and Food Processing

The Oregon Economic and Community Development Department outlook for this sector is bearish through 2016. Only 600 new jobs are expected in the food manufacturing sector. Forest Grove's proximity to high-quality farmland provides opportunities for growth in food processing and specialty agricultural products. In addition, the city is well positioned to take advantage of viticulture based tourism.

Education

During the mid-1800s, The City of Forest Grove grew-up around the Tualatin Academy which became Pacific University. The Pacific University strategic plan outlines a goal to increase enrollment to 4,000 students, up from the roughly 3,100 students currently. Education provides an economic opportunity for Forest Grove's Town Center as Pacific University continues with expansion plans.

Retirement Services

Forest Grove has an existing retirement aged population base exceeding most jurisdictions in Washington County. According to the 2000 census, the percent of population age 65 and older is over 55% higher in Forest Grove than in Washington County as a whole. Moreover, four of the City's top 25 employers nursing care or elderly home facilities. Forest Grove's composition of employment in nursing and residential care facilities is nearly three times the national average. In addition, roughly 20% of the city's population is aged 55 and older. These households provide broad support for leisure and financial activities in the local economy. Over the next five years the retirement age household population in Forest Grove is expected to increase by 16%.

Analysis of Impediments to Economic Growth

Several impediments to economic growth in Forest Grove have surfaced during interviews with key economic stakeholders. Two major impediments include the transportation system and lack of large industrial sites. These issues are described more fully below.

Transportation System

For manufacturers in Forest Grove, the movement of goods can be the largest cost line item due to Forest Grove's distance from major transportation corridors.

Lack of Large Industrial Sites

There are no large parcels of industrial land available within the Forest Grove urban growth boundary. This is preventing the City from capturing larger firms.

The chart below shows the distribution of industrial sites within the Forest grove portion of the regional urban growth boundary.

Vacant General Industrial

Site Area	Number of Tax Lots
Less than 1 acre tax lots	6
1+ to 5 acre tax lots	7
5+ to 10 acre tax lots	7
10+ to 20 acre tax lots	3
20+ to 30 acre tax lots	2
Greater than 30 acres	0

Source: City of Forest Grove, Planning Division

Several tax lots could be aggregated into larger development site. Woodfold Marco's north land holdings comprising six tax lots could be aggregated into a development site of about 72 acres. Land holdings owned by Hennigsen Cold Storage could be combined to form a development site of 19 acres.

Vacant Light Industrial

Site Area	Number of Tax Lots
Less than 1 acre tax lots	1
1+ to 5 acre tax lots	1
5+ to 10 acre tax lots	1
10+ to 20 acre tax lots	0
20+ to 30 acre tax lots	2
Greater than 30 acres	1

Source: City of Forest Grove, Planning Division

Several tax lots could be aggregated into a larger development site. Property owned by Viasystems could be combined to form a development site of approximately 44 acres. Property owned by Matsushita/White Oak River could form a 26 acres site and the Davidson site at Sunset Drive and Hwy. 47 is approximately 25 acres in area.

Short-Term Land Needs

Appendix 1 includes commercial and industrial buildings and land that are considered available to meet short-term supply. Some of these sites are included in the vacant land area above while others are not since buildings are on the property.

Sites Available for Short-Term Needs

	Acreage	Number of Sites	Building Square Footage	Number of Sites
Industrial Sites	145.56	9	559,000	12
Commercial Sites	30.88	12	58,407	19

Source: City of Forest Grove, Economic Opportunity Analysis (2009), Johnson-Reid, LLC

These buildings and land have been identified by the City's Economic Development Coordinator as being currently marketed for development (as of 8/27/09). Thus, these lands and buildings are fully served.

OAR Subsection 660-009-0025(3) (a) prescribes 25 percent of the total land supply be available for each employment type. Based on Figure 1, the short-term need for commercial lands is 56.73 acres (25% of 226.92 acres). Comparing the need to the supply provided in Table 15, there appears to be a deficiency of about 26 acres. For industrial, the short-term need is 51.52 acres (25% of 206.07 acres). Applying the state factors, there is an oversupply of about 94 acres. Similar to the longer-term need, there appears to be an oversupply of industrial sites and a deficiency of commercial sites.

Findings

Finding 1: *Forest Grove has a substantially lower presence of persons receiving a higher education compared with Washington County*

Analysis: An area's level of educational attainment is often used as a proxy for the skill level of the population base. From an Economic Development perspective, Washington County is at a slight competitive advantage regionally, with a higher distribution of higher educated persons—36.6% of local residents have a Bachelor's Degree or higher as compared to 34.7% at the Portland metro level. The City of Forest Grove has a 22.1% share of higher educated local residents according to the 2000 census. This is substantially less than the regional share and that of neighboring job centers, namely Hillsboro. This highlights concerns locally about the extent to which the local skill base matches the needs of high growth industry opportunities.

Finding 2: *From 2002 to 2007, employment growth in Washington County remained strong*

Analysis: Since 2002, total employment growth in Washington County remained strong, gaining 11.3%. The county's growth cycle, which began in late 2003, maintained momentum until early 2007. While the County is still demonstrating employment growth, it is measurably slower. Moreover, the slowing is expected to extend through early to mid-2009 and impact most industries.

Finding 3: *Economic activity in Washington County diverges from overall activity at the regional and state levels.*

Analysis: The largest sectors of the Washington County economy diverge somewhat from sector rankings of the State and metro area. For example, Manufacturing accounts for 19% of Washington County's economy whereas the share is nearly 12% at the State and metro area. On the other hand, Public Administration accounts for a correspondingly large share at the State (16.8%) and metro area (12.7%), but only an 8.5% share in Washington County. Portland metro and Washington County both have a relatively greater share of Professional & Business Services employment, 13.6% and 14.0%, respectively while the overall State share is 11.4%. However, in other sectors Washington County's employment share is roughly similar to State and metro levels.

Finding 4: *Forest Grove's economic activity is characterized by manufacturing and the Education and Health Services sector.*

Analysis: The City of Forest Grove generally adheres to Washington County's sector rankings, but is overwhelmingly driven by Manufacturing and Education & Health Services, which combine to account for over 60% employment in the City.

Finding 5: *Overall job growth in Forest Grove grew modestly between 2002 and 2007.*

Economic Development

Findings

Analysis: Between 2002 and 2007, the City of Forest Grove's employment grew roughly 4.3%. Over this five-year period, the City experienced its strongest job growth in Manufacturing (+143 jobs) and Education & Health Services (+80 jobs). Forest Grove lost roughly 140 jobs in Natural Resources, Information and Professional & Business Services combined.

Finding 6: *Wage levels in Washington County exceed wage levels in the Portland region and the state.*

Analysis: With the exception of Public Administration, Leisure & Hospitality Services, Professional & Business Services and Financial Activities, average wage levels by sector in Washington County are at or above wage levels in the Portland metro area. Across all industries, Washington County wages averaged \$50,036, again 11.0% above the Portland metro \$45,090 average and 31.5% above the \$38,057 Oregon average. Since 2002, wage levels in Washington County have averaged 2.9% annual growth, slightly below the 3.3% annual growth at the State level. Similarly, at 3.2%,

Finding 7: *Wage levels in Forest Grove lag behind Washington County and Portland regional averages.*

Analysis: Forest Grove has remained roughly consistent with State wage growth. However, in 2007, the average wage in Forest Grove was \$33,732, well below the Washington County and Portland area averages.

Finding 8: *High-tech represents a significant part of the Forest Grove economy.*

Analysis: According to the City's economic opportunity analysis, the concentration of employment in High-Tech in Forest Grove is better than 15 times the national average. While circuit board manufacturing is a significant part of the existing local economy, its share of growth is not likely to be high. High-tech growth in Forest Grove is likely to result from firms that are connected to the cluster of high-tech industries centered in Hillsboro. Given Forest Grove's proximity to Hillsboro, the City is in a good position for capturing economic growth in semiconductor and solar component manufacturing.

Finding 9: *Forest Grove's proximity to high quality farmland is an economic asset.*

Analysis: The proximity of Forest Grove to high quality farmland and the City's quality water supply has created opportunities for growth in food processing and specialty agriculture products. The city already has an existing economic base in food processing (J Lieb Foods), nursery & tree products (Hines Nursery), and specialty beverages (Sake One, McMenamins, wineries). A specialty agriculture products cluster could develop as growth opportunities exist in this area. Moreover, the nature of Forest Grove's specialty products—breweries, wineries, distilleries, etc. is closely related with leisure & tourism in the region.

Finding 10: *Tourism is underdeveloped in Forest Grove*

Analysis: The City of Forest Grove is currently undertaking efforts to "brand" the city, giving it a regional identity. The concept of Forest Grove as a "Gateway to Wine Country" is a popular option, facilitated both by Forest Grove's proximity to the metro area and by abundant outdoor recreation activities. Central to the development of Forest Grove's tourism industry is a proposed partnership between McMenamins Grand Lodge and the Washington County Visitors Association (WCVA). The partnership would see the development of the "North Willamette Valley Wine Center" on the Grand Lodge property in Forest Grove. The center would feature an expansion of additional and more amenitized hotel rooms, potential convention facilities, and tasting facilities for regional wine makers.

Finding 11: *Pacific University is an economic asset to the community and anchor for the Forest Grove Town Center*

Analysis: While employment in public education can be expected to grow commensurately with family households in the region, broader growth in the education sector will be born out of Pacific University. The school is currently in an expansionary phase. In 2005 the school complete an \$11 million LEED certified library, and new residence halls were completed in 2006 and 2008. In spring 2008, the University

completed Berglund Hall, which now houses the School of Education. Employment at Pacific University (in Forest Grove) has grown by nearly 20% since 2002. The schools 2010 strategic plan outlines a goal to increase enrollment to 4,000 students, up from roughly 3,100 currently.

Finding 12: *Health services is a major employment sector in Forest Grove*

Analysis: Four of the City's top 25 employers are nursing care or elderly home facilities. Forest Grove's composition of employment in Nursing and Residential Care Facilities is nearly three times the national average.

Finding 13: *The estimated 2008 total employment level in Forest Grove is approximately 9,092 employees.*

Analysis: For the year 2007, ES-202 reports estimate employment in Forest Grove to total 7,425 employees. However, our source ES-202 data reports "covered employment" only—employer firms tracked through unemployment insurance. Because this data omits a significant portion of the workforce that are not covered (i.e. sole-proprietors, self-employed, commission workers) we must revise our estimates to reflect true employment. Estimates from the Bureau of Economic Analysis (BEA) indicate that covered employment accounts for approximately 85% of total employment in Washington County, with individual estimates reported by broad sector. Assuming that Forest Grove roughly tracks regional trends, we estimate the *total* employed level in 2007 to be in the area 9,296 employees.

The second step to creating our base year estimate is updating our 2007 total employment estimate to the current period. This process involves the evaluation of countywide economic trends between 2007 and 2008 in addition to current knowledge about the local economic activity in Forest Grove. Outlined in Figure 14, we assume that between 2007 and 2008 the Forest Grove economy contracted slightly, by a margin of -2.2% to 9,092 employees.

Finding 14: *The baseline employment forecast projects an increase of 5,748 jobs in Forest Grove during the next twenty-years.*

Analysis: The baseline employment forecast anticipates an increase of 5,748 jobs, reflecting an average annual growth rate of 2.5%. Significant employment gains are expected in existing employment sectors including Manufacturing and Education & Health Services. Currently, the Professional & Business Services sector is grossly underrepresented in the Forest Grove economy, with an employment density for the sector roughly 20% of the national average. These services, which include everything from law services and administration to waste remediation are likely being provided by regional firms outside of Forest Grove, namely Hillsboro and Portland. Over the course of the planning period, we expect the maturation of the Forest Grove economy and potential spillover effects from on-going economic growth regionally to produce noteworthy growth in professional services on the margin.

Finding 15: *Forest Grove growth potential is estimated to create demand for between 56 and 71 acres of office commercial land.*

Analysis: The City currently has approximately 2.3 acres of vacant buildable acres suitable for office commercial development. All of the acreage is in the small category and located in the Town Center.

Finding 16: *Over the next twenty years, net new demand for commercial and industrial land is expected to range from 311 to 451 net buildable acres.*

Analysis: The EOA projects that Forest Grove will need between 311 and 451 acres of net buildable land for commercial and industrial activities. In 2009, approximately 321 acres of net vacant land remains in the Forest Grove portion of the regional urban growth boundary.

Finding 17: *Forest Grove growth potential is estimated to create demand for between 56 and 71 acres of office land. Although demand is not sufficient for a single typical, 50-acre Business Park site, Business Park development is estimated as the largest category of demand among the three office space classes.*

Given documented site demand and existing inventory, Forest Grove will require at least 53.5 acres and as many as 68.4 acres of office commercial land to meet economic need over the next twenty years.

Analysis: Currently, Forest Grove has no site availability suitable for larger office park development outside the Town Center.

Finding 18: *Forest Grove economic growth is expected to generate demand for a minimum of 164 industrial acres to as many as 294 acres through 2028.*

Analysis: Although the EOA shows individual site demand has the greatest count in the “Small Businesses” category, total acreage demand is highest in the “Large User or Mid Park” class. In general, there is sufficient industrial land capacity within the urban growth boundary to meet projected 20-year needs in all categories except Cluster Anchor. With a proactive economic development approach, however, demand for industrial land could exceed identified supply by approximately 48 acres over the twenty-year planning period.

Finding 19: *Forest Grove demand for commercial acreage is estimated to range from 97 acres to 142 acres depending upon economic growth scenario.*

Analysis: Medium sites, typically 10 acres in size, comprise the largest single share of acreage demand during the planning period. Given documented site demand and existing inventory, Forest Grove will require anywhere from 66 to 111 additional acres to meet the needs of anticipated population growth through 2028. Unmet commercial retail land need is most concentrated in Medium-sized retail demand, followed by large retail commercial types.

Finding 20: *There appears to be an overall surplus of available industrial land and a deficiency of commercial land both for short-term and through the planning period.*

Analysis: Industrial land for the planning period varies from an excess of 88.14 acres to a need of 24.56 acres, depending on the assumed growth scenario. By comparison, commercial land for the planning period is projected to have a need of 121.06 to 181.96 acres. The pattern is similar for the short term. Applying the short-term land need factor from the state administrative rule, there appears to be an oversupply of 94 acres and an undersupply of 26 acres for commercial use.

Part of the commercial need for office development could be met in the City’s Light Industrial District, which allows for call centers, research and development and information type of uses. There exists about 70 acres of vacant lands (three sites) currently zoned and planned for Light Industrial designation. Thus, there may not be a need to convert industrial land to commercial lands due to the flexibility of the Light Industrial District and plan designation as it currently exists.

Economic Development Goals & Policies

Guiding Principles

The goals and policies for economic development are based on the following guiding principles. These principles are reflected in the City's Vision Statement and Action Plan, Economic Development Strategic Plan, and various planning documents prepared for the Town Center and commercial corridor.

- Strengthen Forest Grove's economic competitiveness
- Improve job opportunities for current and future residents
- Foster sub-regional partnerships
- Promote local shopping opportunities
- Increase tourism
- Maintain a twenty-year supply of employment land

Goals and Policies

Goal Strengthen Forest Grove's Economy

Policy 1.1: Provide incentive programs to attract and retain businesses including ecologically sound "green industries" to Forest Grove.

Policy 1.2: To preserve large lot industrial land, establish a large lot industrial district to control the division of large industrial sites while allowing for market flexibility.

Policy 1.3: Retain up to date information on available industrial and commercial sites and site attributes.

Policy 1.4: Seek certification of large industrial sites through the State of Oregon Industrial Site Certification program.

Policy 1.5: Recruit and retain labor intensive firms for job creation to Forest Grove through the use of State of Oregon incentive programs.

Policy 1.6: Support local entrepreneurship and the formation of new businesses in Forest Grove by providing technical and financial assistance for the development of micro-enterprises.

Policy 1.7: The City's economic development strategy should include adequate and cost-effective provision of public utilities and services.

Policy 1.8: Promote quality schools in Forest Grove as a basis to encourage economic development activity.

Economic Development

Guiding Principles

Goals & Policies

Goal 2 Enhance the Job Skill Level of Forest Grove Residents

Policy 2.1: Increase the marketable skill level of Forest Grove residents by offering internship and training programs in coordination with the Forest Grove School District, Portland Community College and other organizations.

Policy 2.2: The City should promote job training programs to enhance the skill levels of workers and support existing and future businesses locating in Forest Grove.

Goal 3 Develop Cooperative Partnerships to Foster Economic Development

Policy 3.1: Continue to strengthen partnerships with the Forest Grove Chamber of Commerce, Washington County Visitors Association, Pacific University and area economic development organizations

Policy 3.2: Continue coordinated planning and economic development efforts with the cities of Banks, North Plains, Cornelius and Hillsboro.

Goal 4 Promote Industrial Activities

Policy 4.1: Designate a total of between 160 and 300 acres of land on the Comprehensive Plan map to meet projected industrial demand over the next twenty-years.

Policy 4.2: Establish a large lot industrial district on the on the Comprehensive Plan map and Zoning Map to meet the needs of businesses requiring large parcels.

Policy 4.3 Implement development standards to control the division of large industrial sites.

Policy 4.4: Promote greater efficiency in the use of industrial land through the use of financial incentives for infill and redevelopment.

Policy 4.5: Implement a brownfield redevelopment program to increase the productive re-use of contaminated sites.

Goal 5 Promote Retail Activities

Policy 5.1: Designate a total of between 100 and 150 acres of land on the Comprehensive Plan map to accommodate the shopping needs of local residents, visitors and persons working in Forest Grove.

Policy 5.2: Retain a supply of small, medium and large scale retail sites necessary to meet projected twenty-year land needs.

Policy 5.3: Promote opportunities for mixed-use development, including retail, near major transportation intersections (nodes) within the City including the Forest Grove Town Center.

Policy 5.4: Adopt development standards to encourage the creation of commercial areas at a scale proportionate for meeting the daily needs of nearby residents.

Goal 6 Enhance the local economy through Tourism

Policy 6.1: Support local efforts designed to capitalize on Forest Grove's location near agricultural and recreational amenities.

Policy 6.2: Continue to allocate Community Enhancement Funds intended to preserve the existing historic character of the Forest Grove Town Center.

Policy 6.3: Sponsor community events that showcase the city to residents and visitors.

Policy 6.4: Promote Forest Grove as a college town to encourage local tourism.

Policy 6.5: Encourage the development of Forest Grove's burgeoning viticulture, spirits and brewing industries as an element of Forest Grove's tourism strategy.

Goal 7 Promote the Forest Grove Town Center as the Focal Point of the Community

Policy 7.1: Develop marketing materials to encourage shopping in the Forest Grove Town Center.

Policy 7.2: Allocate funds to conduct recruitment efforts to fill in identified business gaps in the Forest Grove Town Center.

Policy 7.3: Identify key properties that are underutilized in the Town Center and assist owners with marketing these assets.

Policy 7.4: Build on the existing grouping of professional services in the Forest Grove Town Center by recruiting tenants that support these activities.

Policy 7.5: Evaluate the feasibility of establishing a tax increment financing (urban renewal) district to encourage commercial investment, building rehabilitation and mixed-use development in the Town Center.

Policy 7.6: Develop an outdoor community gathering place in the Town Center that provides a multi-use area for various community functions.

Policy 7.7: Retain the city's administrative offices in the Town Center.

Policy 7.8: Evaluate the possible relocation of the Light and Power operation on B Street and redevelop the site for mixed-use development.

Policy 7.9: When available redevelop the Woodfold site south of 19th Street for mixed-use development.

Policy 7.10: Amend development standards to increase minimum development densities in the Town Center to improve the economic investment climate for residential construction and encourage a variety of housing types.

Policy 7.11: Promote investment in urban living infrastructure amenities to enhance livability in the Town Center.

Policy 7.12: Encourage uses in the Town Center to bring residents from throughout the City into the Town Center.

Goal 8 Ensure an Adequate Supply of Land for Office Campus Development

Policy 8.1: Adopt an office campus development zone.

Policy 8.2: Designate between 55 and 70 acres of land for office and office campus development outside of the Town Center.

Information regarding available industrial and commercial sites in Forest Grove is provided below. This data is up-to-date as of October 2013. The information is updated periodically. Additional information is available on the Economic Development section of the City's website using the following address:

<http://www.forestgrove-or.gov/city-hall/available-sites-a-properties.html>

Chapter 7

Public Facilities and Community Services

Introduction

This element of the Comprehensive Plan addresses the public facilities and community services needs necessary to accommodate growth expected over the next twenty years. This element of the Comprehensive Plan also addresses the requirements of Oregon Statewide Land Use Planning Goal 11: Public Facilities and Services and Oregon Administrative Rules Chapter 660, Division 11.

In general, the public facilities element establishes a framework for an orderly and efficient arrangement of public facilities and services for urban development. Under Goal 11 “A Timely, Orderly, and Efficient Arrangement” refers to a plan that coordinates the type, locations and delivery of public facilities and services in a manner that best supports existing and proposed land uses as shown on the Comprehensive Plan map. Under state law the public facilities element must address the following public facilities:

- Water;
- Sanitary Sewer;
- Storm Drainage; and
- Transportation

Cities and counties are free to include other public facilities and community services in the public facilities element. Other public facilities and community services identified in the public facilities elements include:

- Public Safety (Police and Fire);
- Health services;
- Energy;
- Parks and Cultural Resources;
- Solid Waste and Recycling;
- Communication services;
- Library; and
- Administrative Services

Oregon administrative rules establish requirements for public facilities plans. To comply with the rules public facility plans must include:

- Inventory and general assessment of the condition of significant public facility systems which support land uses designated in the acknowledged comprehensive plan;

Public Facilities & Community Services

- List of the significant public facility projects which are needed to support the land uses designated in the acknowledged comprehensive plan;
- Rough cost estimates for each public facility project;
- A map or written description of each public facility project's general location or service area;
- Policy statement identifying the provider of each public facility system;
- An estimate of when each facility project will be needed to serve development. Timing should relate to planned population growth. Projects must be identified as either long term or short term.
- Under state law the public facilities element must include rough cost estimates for:
 - Sewer improvements
 - Water improvements
 - Transportation improvements
 - Provide estimate of the fiscal requirements to support the land use designations in the acknowledged comprehensive plan
 - Identification of existing funding mechanisms:
 - General Fund
 - General Obligation or Revenue Bonds
 - Local Improvement Districts
 - System Development Charges
- The City must also adopt:
 - A map and written description of the public facility projects locations or service areas as specified in (2) and (3)
 - Policies governing or urban growth management agreement designating the provider of each public facility system

A public facility element may allow for the following modifications to projects without amendment to the public facility plan:

- A. Administrative changes including modification to a public facility project that are minor in nature and do not significantly impact the project's general description, location, sizing, capacity or general characteristics of the project
- B. Technical and environmental changes including final engineering
- C. Land use amendments significantly impacting a public facility project.

Planning Guidelines

The Oregon Administrative Rules provide guidelines for preparing public facilities plans. The guidelines state:

1. Plans providing for public facilities and services should be coordinated with plans for designation of urban boundaries, urbanizable land, rural uses and for the transition of rural to urban uses.
2. Public facilities and services for rural areas should be provided at levels appropriate for rural use only and should not support urban uses.
3. Public facilities and services in urban areas should be provided at levels necessary and suitable for urban uses.
4. Public facilities and services in urbanizable areas should be provided at levels necessary and suitable for existing uses. The provision for future public facilities and services in these areas should be based upon:
 - a. The time required to provide the service;
 - b. Reliability of service;
 - c. Financial cost; and
 - d. Levels of service needed and desired.

5. A public facility or service should not be provided in an urbanizable area unless there is a provision for the coordinated development of all the other urban facilities and services appropriate to that area.
6. Plans providing for public facilities and services should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development action provided for by such plans should not exceed the carrying capacity of such resources.

Local Public Services Policy

1. It is the policy of the City of Forest Grove to require new development within the city limits to connect to public services for access, sewer, water and storm water unless private access is approved through the issuance of a land use permit.

For purposes of developing the public facilities plan the following household, population and employment estimates were used.

Household, Population and Employment Estimates Metro Gamma Estimate (September 2012)

Source: Metro

Households	10,380
Population	28,130
Employment	10,380
Retail	1,747
Service	3,455
Other	5,343

Implementation

Public facility plans must provide for the implementation of recommendations. Implementation may include:

1. Capital improvement programming and budgeting should be utilized to achieve desired types and levels of public facilities and services in urban, urbanizable and rural areas.
2. Public facilities and services should be appropriate to support sufficient amounts of land to maintain an adequate housing market in area undergoing development or redevelopment.
3. The level of key facilities that can be provided should be considered as a principal factor in planning for various densities and types of urban and rural land uses.
4. Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests in carrying out the goal.
5. Urban Growth Management Agreement (Washington County)

Local Service Providers

The following organizations provide public and community services within the Forest Grove planning area:

Police:	City of Forest Grove Police Department Washington County Sheriff
Fire:	City of Forest Grove Fire and Rescue
Water:	City of Forest Grove Public Works
Electricity:	City of Forest Grove Light and Power
Natural Gas:	Northwest Natural
Communications:	Various Private Service Providers Telephone: Frontier, Comcast Cellular Telephone: Multiple Carriers Fiber Optic: Frontier, Comcast Cable Television: Frontier, Comcast Satellite Television: Multiple Providers
Healthcare:	Forest Grove Community Hospital (Tuality Healthcare)
Solid Waste:	Waste Management Corporation

Water System

The Forest Grove Water Master Plan was updated in August 2010. The purpose of the update was to evaluate water system facilities serving Forest Grove and determine water supply requirements and system improvements needed to serve expected housing and employment growth of the City. The Forest Grove Water System generally serves the area within the Forest Grove city limits and adjacent unincorporated lands within the Forest Grove portion of the Portland regional urban growth boundary (OAR 660-011-0010(d)). The Forest Grove water system also serves the Gales Creek unincorporated community northwest of Forest Grove. Consistent with Statewide Land Use Planning Goal 11 (Public Facilities), provision of water to the Gales Creek community does not allow for an increase in development in the Gales Creek Community due to availability of water service from the City of Forest Grove.

Local water providers include the City of Forest Grove Public Works Department, Joint Water Commission, and Tualatin Valley Irrigation District.

Public Facilities & Community Services

Water System

The 2010 Master Plan updates the City's 2000 Water Master Plan document. The Water Master Plan is a public facility plan as defined by OAR 660-011-0005. The Water Master Plan is a supporting document to the Forest Grove Comprehensive Plan and the analysis, findings and recommendations contained in the August 2010, Water Master Plan Update are incorporated into the Forest Grove Comprehensive Plan by reference.

The Water Master Plan provides an assessment of water supply requirements based on updated population and water demand forecasts. The Water Master Plan identifies distribution system deficiencies, recommends water system improvements and includes project cost estimates. The Water Master Plan partially fulfills the requirements of Statewide Land Use Planning Goal 11: Public Facilities and Services. The Water Master Plan also substantially complies with the water system master planning requirements under Oregon Administrative Rules Chapter 333, Division 661. In addition, the Water Master Plan substantially complies with the water system master planning requirements under Oregon Administrative Rules Chapter 333 - Division 61 - Section 60.

Chapter 3.800-3.812 and 4.005-4.135 of the City of Forest Grove Municipal Code establishes regulations for the Forest Grove water utility. Section 3.804 establishes procedures for establishing water system development charges. The water system development charge funds a portion of the cost of capital improvements for water storage, transmission, treatment and distribution.

History

The first public water system for the City of Forest Grove was built circa 1908. A water intake was constructed on Clear Creek, a tributary of Gales Creek. A transmission line, constructed of logs with a ten-inch hole bored through the center, conveyed water from the intake to the present site of the water treatment facility on Watercrest Road. The water was stored in a concrete reservoir built at the same time as the intake and transmission line. The reservoir is still in use as the settling basin for the water treatment plant.

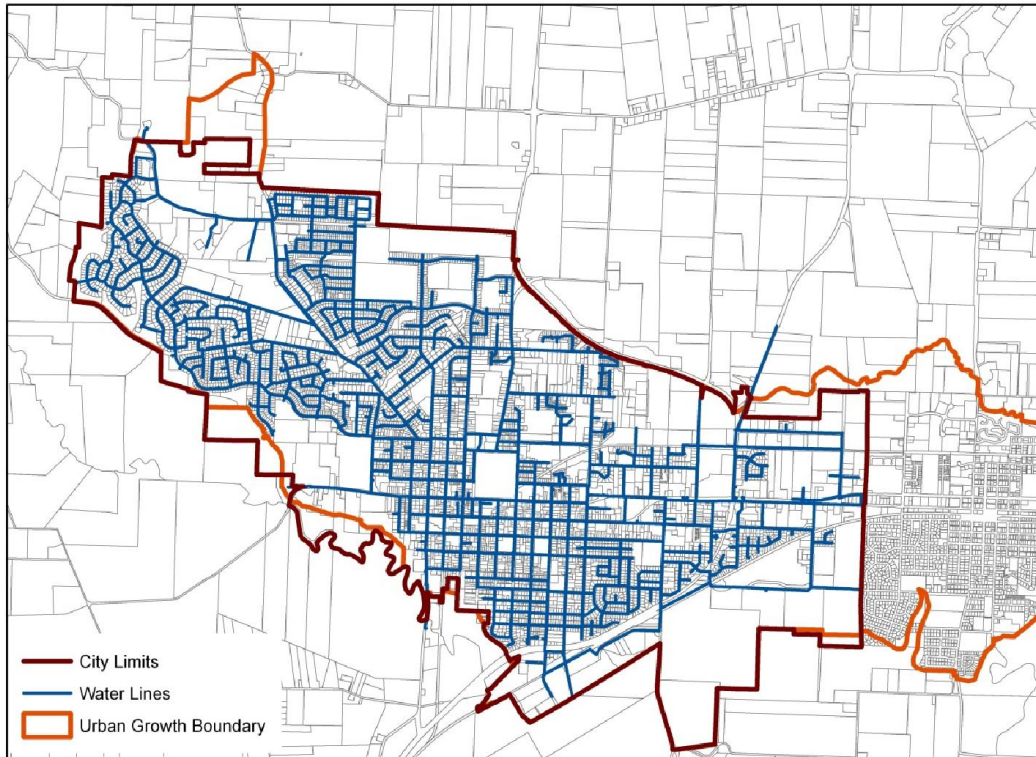
A five million gallon water reservoir was constructed in 1947 about the same time as an improved water treatment plant. This is reported to be one of the first rapid sand filter treatment facilities built in Oregon. During 1978 the water treatment plant was rebuilt. Construction was completed in 1980. The facility has a firm capacity of approximately 3.7 million gallons per day.

The City's water distribution system serves approximately 5,800 customers within the urban growth boundary. The water distribution system includes 78 miles of water main supplying approximately 1,000 million gallons of water during Calendar Year 2010.

The following map shows the water distribution system currently serving Forest Grove²⁵.

²⁵ Source: City of Forest Grove, Engineering Division, from GIS files. Map prepared by Community Development Department.

Water Lines



Water Supply

The City of Forest Grove has rights to the following sources of water: Clear Creek, Gales Creek, Roaring Creek, Tualatin River, Scoggins Reservoir, and Barney Reservoir. The City has intake facilities within the Clear Creek watershed. In addition, the City has a 16-inch diameter raw water transmission main from the Clear Creek basin to the City's water treatment plant located in the northwestern Forest Grove. The water treatment plant has a firm plant capacity of 3.7 million gallons per day. The plant is of conventional design, consisting of rapid mix, flocculation, sedimentation, and rapid sand filtration. Filtered water is piped by a gravity system.

The City of Forest Grove is a member of the Joint Water Commission (JWC). Other members of the JWC include Hillsboro, Beaverton, and the Tualatin Valley Water District. The Joint Water Commission provides the primary potable water supply to approximately 425,000 customers within Washington County including approximately 50% of the City of Forest Grove's water supply needs on an annual volume basis. Joint Water Commission facilities include the water treatment plant located on Fern Hill Road south of the City, intake pump, two reservoirs and main transmission lines. The JWC water treatment capacity is approximately 75 million gallons per day. The City of Forest Grove's approximate capacity ownership is 10%. The ownership percentage is used by JWC to allocate capital costs.

Pressure Zones and Service Areas

The City of Forest Grove water distribution system supplies three pressure zones and an outside service area.

The main (lower) pressure zone includes most of the City of Forest Grove. The reservoir at the City water treatment plant site and the pressure reducing station of the Joint Water Commission supply line hydraulically serve the main pressure zone. The minimum elevation of the lower pressure zone is 155 feet and the maximum is 250 feet. The lower pressure area serves approximately 1,685 acres with 5,970 connections.

The intermediate and upper pressure zones are located in the northwest corner of the City. These pressure zones are served from the main pressure zone by the David Hill pump station, Watercrest pump station and the David Hill reservoir. The minimum elevation of the intermediate pressure zone is 230 feet and the maximum is 320 feet. The intermediate pressure zone serves approximately 51 acres with 182 connections.

The upper pressure zone serves the Valley Crest, Flemming, and Lavina area of Forest Grove. The minimum service elevation is 300 feet and the maximum elevation is 445 feet. The upper pressure zone serves approximately 120 acres with 593 connections. The “hilltop” area above the 440 foot contour elevation is not serviceable from the existing water system.

The Gales Creek Service Area is outside of the city limits. This service area includes the water customers originally served off the 16-inch raw water supply line running along Gales Creek to the City of Forest Grove water treatment plant. The Gales Creek service area is at an elevation of approximately 250 feet to 300 feet. The Gales Creek service area serves 57 connections.

Distribution System

The City of Forest Grove Water System includes intake facilities within the Clear Creek watershed in the Coastal Mountain Range foothills northwest of Forest Grove. This includes intake facilities on Clear Creek, Roaring Creek, Thomas Creek, Deep Creek, and Smith Creek. The 16-inch diameter raw water transmission main from the Clear Creek basin intake facility to the City's water treatment plant is approximately seven miles long.

The City of Forest Grove water treatment plant has a firm plant capacity of 3.7 million gallons per day. The plant consists of rapid mix, flocculation, sedimentation and rapid sand filtration.

Forest Grove Water Treatment Plant



The filtered water is piped by gravity to the City's main 4.27 million gallon covered reservoir located adjacent to the water treatment plant. The City's 1.0 million gallon reservoir was constructed in 1985. This facility is located on David Hill Road outside the city limits.

The City's water distribution system has three pumping facilities:

- Raw water booster pump station along the transmission main to the City water treatment plant;
- David Hill pump station; and
- Watercrest pump station

The David Hill pump station was the primary means to pump water from the main (lower) pressure zone to the David Hill reservoir. The Watercrest pump station is currently the primary pump station feeding the David Hill reservoir and the upper pressure zone. The David Hill reservoir is now used as the back-up.

The water distribution system is comprised of piping ranging in size up to 24 inches in diameter. Pipe types include cast iron, ductile iron, copper, steel, wrought iron, galvanized iron, and polyvinyl chloride (PVC). Newer distribution piping is primarily ductile iron. The distribution system contains approximately 78 miles of distribution main pipelines.

Water System Performance Measures

- Collect approximately 180 samples annually to meet requirements of the Oregon Health Division and ensure clean and safe water

Public Facilities & Community Services

Water System

Performance Measures & Performance Goals

- Replace meters after 15 years of service
- Test meters greater than 2 inches annually
- Test 12% of the distribution system per year for leaks
- Flush distribution system annually
- Respond to service interruption within 24 hours

Water System Performance Goals

- Provide adequate water supply to meet the present and future water needs of the community
- Maintain and manage the City watershed for water supply quality and sound forest environment
- Provide reliable and efficient water treatment facilities
- Ensure sufficient water flow for all water use, including fire suppression, by maintaining the reservoirs, pump station, piping and fire hydrants throughout the distribution system
- Provide efficient metering of all water to assure fair allocation of costs and maintain reasonable water rates
- Construct pipelines and other facilities necessary to replace those that are aged and defective or to serve expansion of services
- Safeguard the water distribution system from contamination by providing a backflow prevention program
- Continue partnership with the Joint Water Commission (JWC)

Water System Recommendations

Capital Improvement	Purpose	Cost (2010) Million	Implementation
Water Rights Strategic Plan	Supply	\$0.03	Short Term
Tualatin Valley Irrigation District Supply Option Study	Supply	\$0.045	Short Term
JWC Transmission Line Emergency Intertie (Heather St.)	Transmission	\$0.25	Short Term
JWC Parallel Supply Line (18" 6mgd capacity)	Transmission	\$3.5	Long Term
Raw Water Booster Station Upgrade	Transmission	\$0.2	Long Term
Raw Water Transmission Line Replacement	Transmission	\$2.5	Long Term
Gales Creek Source Improvements	Supply	\$2.5	Long Term
TVID Supply Plan Transmission Extension	Transmission	TBD	Long Term
JWC Barney Reservoir Buy-Back	Supply	\$1.5	Long Term
TBWSP Water Supply Future Buy-In	Supply	TBD	Long Term
Scoggins Seismic Retrofit	Supply	\$4.9	Long Term
JWC ASR Future Buy-In	Supply	TBD	Long Term

Watershed Road Improvements	Other	\$0.02	Short Term
Fish Screen at Fern Hill Pump Station	Transmission	\$0.320	Long Term
Raw Water Pipeline	Transmission	\$2.7	Long Term
Water Treatment Plant Safety and Ops. Improvement	Treatment	\$0.03	Short Term
Mechanical Sludge /Residuals Collection System	Treatment	\$0.15	Short Term
Plate Settlers and Launder Replacement	Treatment	\$0.7	Short Term
TVID Supply Treatment Modifications	Treatment	TBD	Long Term
Forest Grove Water Treatment Plant Major Maintenance	Treatment	\$0.01	Short Term
Land Acquisition for Upper Zone Storage	Storage	\$0.1	0-5 years
Land Acquisition for Lower Zone Storage	Storage	\$0.1	0-5 years
Land Acquisition for David Hill Area	Storage	\$0.1	20+ years
0.30 MG Upper Reservoir 1	Storage	\$0.35	0-5 years
0.30 MG Upper Reservoir 2	Storage	\$0.35	11-15 years
2.25 MG Lower Reservoir	Storage	\$2.13	6-10 years
Flow/Pressure Improvements	Distribution	\$1.9	0-5 years
David Hill Road Waterline	Distribution	\$0.24	0-5years
Watercrest Road Pump Station Upgrade	Distribution	\$0.075	TBD
Industrial Area – 23 rd /24 th Avenue	Distribution	\$0.25	0-5years
Line Oversizing Participation	Distribution	\$0.05	Annual
Water Master Plan Update (every 6 years)	Other	\$0.125	6-20 years
Asset Management Program	Other	\$0.10	0-5 years
Joint Water Commission Commitments	Other	\$6.1	0-20 years
Tualatin Basin Water Supply Commitments	Other	\$5.3	0-20 years
Total			

Source: City of Forest Grove, Water Master Plan (2010)

Project costs were prepared using a combination of similar project costs, RS Means 2006 data, and September 2007 Engineering News Record Construction Cost Index. Total project cost was calculated by multiplying the base cost of construction times a non-construction cost factor. This factor includes contractor mobilization, contractor overhead and profit, and a planning level contingency.

Funding

The following funding sources are general used to fund the water system:

- Water System Development Charges
- Water Rates (Two Components)
 - Fixed Charge
 - Volume Charge

Local improvement districts and reimbursement districts may also be used to fund water infrastructure. Under a local improvement district benefitting properties are charge an assessment to fund the cost of infrastructure. Under a reimbursement district the City pays for the infrastructure and the City is reimbursed when property is sold or developed.

Water Service Goals

1. Water facilities shall be designed and sized to serve the need of future land uses as designated in the Forest Grove Comprehensive Plan map.
2. Protect and restore the natural systems that underpin watershed health and hydrological integrity²⁶.
3. The Water Master Plan shall be incorporated as part of the Forest Grove Comprehensive Plan.

Local Policies

1. A master plan including prioritized lists of capital improvement needs shall be adopted for provision of water service. This plan shall be based on future land use policies and needs.
2. All future development shall be required to comply with the adopted water master plan, Municipal Code including Development Code and the City of Forest Grove Engineering Specification.
3. The sizing of municipal water facilities shall follow land use plan designations and concentrate development close to the City Center.
4. Water easements shall, if possible, be incorporated in the Comprehensive Plan as part of an open space and trail system.
5. The master plan element for water shall include design for the adequate provision of these facilities for those areas designed in the land use plan for industrial use. These design requirements shall serve as the City standards for services to industrial areas.
6. The City of Forest Grove will develop a capital improvement program that will provide water for the processing of agricultural products when economically feasible.
7. The Master Plan for water shall be designed for service to at least the Year 2030 and be adopted as part of the Comprehensive Plan.
8. Recommendations for capital improvement needs relative to the water facility shall be included in an adopted Capital Improvement Program.
9. Develop, adopt, and achieve, local water conservation and demand management goals.
10. Protect, enhance and restore the water quality of the region through sound management of the City's watershed including to the maximum extent practicable the integrity of streams, wetlands, and floodplains.
11. Promote the protection of natural areas along waterways and enhancement of quality.

²⁶ ICLEI, Sustainability Goals and Guiding Principles, October 2010.

Public Facilities & Community Services

Water System

Water Service Goals & Local Policies

12. Retain the City of Forest Grove's regional competitive cost advantage for water service.

Storm Water (Drainage) System

As the City of Forest Grove develops during the next twenty years, the City and Washington County Clean Water Services must plan and construct storm drainage facilities to improve and expand upon the existing system. Clean Water Services, a special district of Washington County, operates and maintains the regional surface water management system. The principal aim is keeping the Tualatin River clean and healthy for fish and other ecosystems. The City of Forest Grove operates a local surface water management utility.

Storm drainage facilities should convey storm runoff to the desirable discharge point in sufficient time to avoid potential damage and inconvenience during storm events. An economic balance exists between the cost of drainage structures and the direct and indirect costs of possible damage to property and inconvenience to the public over time.

The City of Forest Grove Storm Water (Drainage) Master Plan was updated in 2007. The purpose of the update was to analyze the City's existing storm water system for current hydraulic adequacy and system performance based on future land use requirements. The update was prepared by Kennedy/Jenks Consultants. The analysis, findings, conclusions and recommendations contained in the 2007 Storm Drainage Master Plan is incorporated into the Forest Grove Comprehensive Plan by reference.

Storm water drainage is an identified facility plan under Statewide Land Use Planning Goal 11: Public Facilities Planning (OAR 660-0011-0005(7)).

The update of the Storm Drainage Master Plan included the following work:

- Review of stormwater system inventory data;
- Review of system map including existing system service areas and basin boundaries;
- Describe the existing system and inventory of known problem locations;
- Prepare land use projections as a basis for formulating flow projections;
- Develop, validate, and analyze the stormwater using the PC-SWMM hydraulic modeling program. The PC-SWMM model is consistent with the methodology used by Clean Water Services;
- Identify and prioritize capacity deficiencies and needs forming the foundation for the Capital Improvement Program;
- Categorize the model results with regard to the amount of the surcharge and the depth to overflow. This shall include prioritizing existing pipes based on existing conditions;
- Prepare a Capital Improvement Program identifying recommended capital improvements and estimated project costs for a 20-year planning period; and
- Describe the general funding mechanisms and programs available;

Public Facilities & Community Services

Storm Water (Drainage) System

Hydrology

The City's planning area within the Portland regional urban growth boundary abuts two major Tualatin River tributaries: Council Creek and Gales Creek. The City includes 7 major drainage basins with a total combined acreage of approximately 3,860 acres.

Conveyance System

The conveyance system is composed of open drainageways, ditch systems, gravity storm drainage pipelines and 1 pump station. The Storm Drainage Master Plan identifies approximately 245,000 feet of storm pipeline that is the responsibility of the City.

Storm Water Capital Improvement Program

Source: City of Forest Grove, Storm Water (Drainage) Master Plan (2007)

Project Number	Project Name	Description	Cost (2007)	Timing
07-1	Alyssum and Twinflower	Replacement of 12" and 18" line with 550' of 21" line. This will increase the system flow capacity to 16 cubic feet per second.	\$135,000	6-10 years
07-2	Bonnie and B Street	Add two new catch basin near intersection to collect water runoff more efficiently	\$113,000	0-5 years
07-3	Cedar Street Gravity	New gravity pipe system running north along Pacific Avenue property and discharging near 26 th Street.	\$368,000	6-10 years
07-4	26 th Street to Willamina	Restoring or rebuilding the stream from 26 th Avenue to Willamina.	\$352,000	0-5 years
07-5	Hawthorne & 23 rd Street	Stream restoration along the open channels and culvert replacements at Hawthorne Street and the railroad. This project will require long-term construction phase easements, or land acquisition.	\$342,000	0-5 years
07-6	Higby Lane Project	Stream restoration/excavation along the open channel pathways downstream of Willamina Avenue. This project will require long-term and construction phase easements or land acquisition.	\$230,000	6-10 years
07-7	Beal Pond	The existing pond develops water surface greater than crown of influent culverts. Pond influences upstream flows. Install continuous stage recording device to monitor the frequency of specific high water elevations.	\$26,000	0-5 years
89-1	Basin 1	Provide a piping system along Baseline Road between approximately Yew Street and the Forest Grove east city limit boundary. This project is needed to minimize maintenance and traffic safety concerns in the area.	\$128,000	0-5 years
89-2	Basin 2	Construct new storm sewers along Yew Street.	\$85,000	6-10 years
89-5	Basin 5	Construct new storm line should be run from the intersection of 17 th Avenue and Hawthorne Street in an easterly, downstream direction towards an existing storm line near Kingwood	\$134,000	0-5 years

		Street. This project is need to pick-up the slow draining intersection at 17 th and Hawthorne.		
89-6	Basin 6	Improve outfall to Basin 6 crossing Tualatin Valley Highway.	\$54,000	0-5 years
89-10	Basin 10	The main channel system downstream of Willamina Avenue should be improved for stream restoration capable of safely conveying storm flows through the area.	\$257,000	6-10 years
89-11	Basin 11	<p>Improve storm water drainage along Thatcher Road. System surcharging should be addressed in the vicinity of Willamina just southwest of the intersection of Thatcher Road and Gales Creek Road. This project should include preliminary survey and investigation to address existing grades and pipe condition.</p> <p>B Street and Camino Drive (north of 26th Avenue). This project is needed to convey all flow to the north to the existing storm system further downstream in B Street. This project is needed to eliminate maintenance problems where the existing system currently directs flow to the northeast near Higby Lane.</p>	\$271,000	6-10 years
89-15	Basin 15	Long term drainage improvements are recommended in the area in the David Hill Road/Thatcher Road area to accommodate new development. Improvements include over 1,200 feet of new piping, manholes, pavement replacement, and catch basins.	\$336,000	6-10 years
89-16	Basin 16	This is a large drainage basin that also includes territory outside the urban growth boundary along Thatcher Road. Approximately 1,000 feet of new piping ranging in size from 15' to 24", manholes, pavement replacement and catch basins.	\$185,000	6-10 years

Funding Mechanisms

The City's surface water management/drainage program is funded through two primary sources:

- Surface Water Management System Development Charge
- Surface Water Management Fee

Clean Water Services sets the rates throughout their service district. The Clean Water Services service district includes the cities within Washington County and most of the urban unincorporated area. The surface water management fee is comprised of two components – a regional fee and local fee. The fee is based on the impervious surface of a property. Clean Water Services sets both components through their Board of Directors which is made-up of the Washington County Commissioners. Cities are allowed to add or modify the local component of the fee.

Local Goals

1. Storm sewer facilities should be designed to mitigate runoff conditions based on future land uses shown on the Forest Grove Comprehensive Plan map as determined by the City Engineer.
2. Storm sewer facilities should co-locate to complement other infrastructure facilities and to avoid conflicts.
3. The City of Forest Grove Storm Drainage Master Plan shall be incorporated as part of the Comprehensive Plan.
4. Reduce storm water inflow and infiltration into the collection system²⁷.
5. Reduce storm water runoff by encouraging the use of low impact design techniques.
6. Design and maintain an integrated water, storm water, and waste water system that reduces pollution and protects and restores ecological systems, minimizes energy use and maximizes efficiency²⁸.

Local Policies

1. All future developments shall be required to comply with the Storm Water (Drainage) Master Plan, Development Code and City Engineering Specifications related to storm water runoff.
2. Design of storm water facilities shall support Comprehensive Plan land use designations.
3. Drainage easements, if possible, shall be incorporated as part of open space and trail systems with City Engineer approval.

²⁷ From 2012-2013 Budget

²⁸ ICLEI, Sustainability Goals & Guiding Principles, October 2010.

4. All future storm drainage facilities shall be designed for 5-year frequency storms using runoff conditions based on Forest Grove Comprehensive Plan land use designations.
5. A list of capital improvements for storm water drainage needs shall be incorporated into the City's Capital Improvement Program based on budgetary constraints.
6. Encourage sustainable development practices to reduce stormwater runoff
7. Promote the urban forest and recognize the positive benefits of the urban forest in managing stormwater.
8. Encourage "green street" standards including the planting of street trees and use of pervious surfaces in appropriate locations.
9. Manage stormwater runoff so that it is retained as close as practicable to the site at which development or redevelopment occurs.
10. Ensuring to the maximum extent practicable the quantity of stormwater leaving a site after development is equal to or better than before development.
11. Promote the incorporation of natural watershed systems into future planning and design processes to mitigate impacts of development.
12. Inspect grease and oil separators in all food establishments.²⁹

²⁹ From 2012-2013 budget.

Sanitary Sewer System

The City of Forest Grove operates a local sanitary sewer utility that feeds into the regional sanitary sewer system operated by Clean Water Services. Clean Water Services operates and maintains the regional sewer system including the large conveyance pipes over 24 inches in diameter and the wastewater treatment plants. One wastewater treatment plant is located in southern Forest Grove east of Fern Hill Road and south of Highway 47. Under an intergovernmental agreement with Clean Water Services, the City shares a proportional share of the revenue for the regional system.

The City's sewer utility is responsible for the safe and efficient operation and maintenance of the local sanitary sewer system. The City's Administrative Services Department performs utility billing services and provides customer service related to billing.

Clean Water Services updated the regional Sanitary Sewer Master Plan in 2009. This master plan is incorporated into the Forest Grove Comprehensive Plan by reference. The primary purpose of the Sanitary Sewer Master Plan is to provide a capacity assessment of the Clean Water Service wastewater collection facilities, and to identify improvement necessary to extend service into anticipated growth areas. A key objective of the capacity assessment is to identify physical improvements needed to reduce the risk of unanticipated discharges (sanitary sewer overflows) as flows increase over time. The master plan includes recommendations to ensure conformance to water quality standards.

Goals

1. Sewer facilities shall be designed and sized to serve the need of future land uses as shown on the Forest Grove Comprehensive Plan Map³⁰.
2. Maintain a reliable collection system, to transport sewerage to the Clean Water Services conveyance system, and then to the Clean Water Services treatment facility³¹.
2. Sewer facilities shall be located in a manner to complement other infrastructure improvements and reduce conflict with incompatible uses, be guided by existing uses and be subject to special review considerations³².
3. The Sewer Master Plan shall be incorporated as part of the Forest Grove Comprehensive Plan³³.

³⁰ From 1980 Comprehensive Plan

³¹ From 2012-2013 Budget

³² From 1980 Comprehensive Plan

³³ From 1980 Comprehensive Plan

Policies

1. To ensure adequate sewerage collection within the Forest Grove planning area, the City shall advocate for the installation of needed trunk lines to serve planned development on the north and northwest part of the urban growth boundary.
2. A master plan including prioritized lists of capital improvement needs shall be developed and adopted for sewer service. The capital improvement program shall be based on future land use policies, needs, and budgetary constraints.
3. All future development shall be required to comply with the sewer master plan, adopted engineering design standards, and requirements of the Forest Grove Municipal Code including the Development Code.
4. The sizing of sewer collection lines shall support land use plan designations and concentrate development close to the City Center.
5. Sewer easements shall, if possible, be incorporated as part of an open space and trail system.
6. The planned sewer system shall include criteria for the adequate provision of sewer services for those areas of the community identified on the Forest Grove Comprehensive Plan map for industrial use including the needs of food processing businesses.

Capital Improvement Plan

Basin	Improvement Category	Length of Sewer (ft)/ Number of Pump Stations	Estimated Cost (Million \$)
Forest Grove	Upgrades to Existing Gravity Sewers	5,297	\$1.3
Forest Grove	Upgrades to Existing Pump Stations and Force Mains	3	\$5.5
Forest Grove	New Gravity Sewer Extensions	7,126	\$2.0
Forest Grove	New Pump Stations and Force Mains	1	\$2.3
Total			\$11.1

Source: City of Forest Grove, Wastewater System Master Plan (2007)

Funding

Sewer Fund - Clean Water Services sets the sanitary sewer system rates throughout the Clean Water Services district which includes the City of Forest Grove and most of the unincorporated area within the urban growth boundary. The sewer fee is comprised of two components – a regional component and a local component. Clean Water Services sets the rate for both components through the Clean Water Services Board of Directors which is made-up of the Washington County Commissioners. Cities are allowed to modify the local component of the rate in order to properly fund local sewer services.

Sewer SDC - The sewer system development charge (SDC) is an assessment provided under Oregon Law which is paid at the time a connection permit is issued by the City. The SDC is based on the cost of using capacity previously built into the system. The amount of the charge is proportional to the impact of the service and is therefore based on the number of water use fixture units in a building.

Clean Water Services is the regional authority for sewerage collection and treatment. The SDC revenue is allocated as follows: 80% to Clean Water Services and 20% to the City of Forest Grove. The City uses the revenue to increase capacity of sewer collection lines and participation in proportional costs

associated with construction large trunk lines. The City is responsible for lines 21 inches in size and below. Clean Water Services uses the revenue to increase the capacity of large conveyance pipes and wastewater treatment facilities need to accommodate growth.

Other funding sources include reimbursement districts and local improvement districts. The City Council may establish reimbursement districts or local improvement districts to fund the extension of sanitary sewer lines. Under a reimbursement district, the city funds the cost of extending and is reimbursed for eligible costs as property develops or is sold. Under a local improvement district, the City funds the cost of extending the sewer line and benefitting property is assessed fee to repay eligible costs over time.

Forest Grove Wastewater Treatment Facility

The Forest Grove Facility, located at 1345 Fern Hill Rd., Forest Grove, Oregon, provides wastewater treatment for the City of Forest Grove, the community of Gaston, and the City of Cornelius. The facility provides secondary treatment using an activated sludge process followed by ultraviolet disinfection. The Forest Grove, Hillsboro, and Rock Creek Treatment Facilities are connected by pipeline and are integrated in terms of operational requirements. As such, responsibility for operating the facilities is also consolidated. The Forest Grove Wastewater Treatment Facility Liquid Stream Upgrade project was completed in 2010. Principal new features that replaced outdated and undersized Facility components are a headworks, influent pump station, grit building, and aeration basin.

Treatment processes at the Forest Grove Wastewater Treatment facility is becoming more sustainable and cost-effective. Increasingly treatment is moving away from the chemical system to a natural treatment system. Natural treatments system are generally more cost-effective and sustainable.



Energy

Issue

The City of Forest Grove has its own electrical utility through the Forest Grove Light and Power Department. A municipal electrical utility is unique within the Portland urban growth boundary. The Forest Grove Light and Power Department provides reliable cost-competitive electrical service within the city limits and surrounding unincorporated Washington County area. The Light and Power Department provides lighting for streets, parks and parking areas under the jurisdiction of city government. The Light and Power Department also supports local economic development initiatives.

Findings

Forest Grove Light and Power was established in 1895 and is one of three municipal electrical utilities in the Portland area (Canby and McMinnville). Customers: Forest Grove Light and Power serves approximately 8,600 customers³⁴.

The Forest Grove Light and Power Complex is located south of the Forest Grove Town Center on B Street south of 19th Avenue. The complex includes the administrative offices and yard. The Light and Power building is single story and contains approximately 25,300 square feet of space. The building was originally constructed in 1966 and remodeled in 2012.

Vintage Forest Grove Light and Power Building



³⁴ Oregon Municipal Electrical Utilities Association, 2008

Contemporary Forest Grove Light and Power Complex



Overview of Electrical Distribution System

Forest Grove is served by high voltage power lines owned by the Bonneville Power Administration. The Thatcher Junction substation is located on the 47 mile 115 kV line from Forest Grove to the Tillamook Substation. The Filbert Substation is located on the 24-mile 115 kV line between the Forest Grove Substation and BPA McMinnville.

Thatcher Junction Substation



Filbert Substation



BPA and Forest Grove Substation



The BPA substation is located adjacent to the Forest Grove substation north of the Portland and Western Railroad line and west of Oak Street in north-central Forest Grove.

Relationship with Bonneville Power Administration

The Bonneville Power Administration is a wholesale provider of electricity to the Forest Grove Light and Power. Approximately 90 percent of the electrical power provided by Forest Grove Light and Power is purchased from the Bonneville Power Administration. The remaining 10 percent comes from two Grant County Washington hydroelectric projects.

The table below provides a comparison of residential electricity rates in the Forest Grove area. The table shows that Forest Grove offers very competitive rates within the region.

Utility	Base Charge	Service Rate ³⁵
Forest Grove Light and Power	\$13.26	5.525¢ per kWh
Portland General Electric	\$9.00	7.139¢ per kWh
Western Oregon Electric	\$35.00	1.102¢ per kWh
Canby Utility	\$11.50	5.495¢ per kWh
McMinnville Electric	\$11.63	8.345¢ per kWh
Regional Average	\$16.08	7.45¢ per kWh

Source: City of Forest Grove from Internet search

The table below shows electrical rates for large commercial and industrial service.

Utility	Base Charge	Service Rate ³⁶
Forest Grove Light and Power	\$49.99	3.735¢ per kWh
Portland General Electric	\$20.00 to \$25.00	6.008¢ per kWh
Western Oregon Electric	\$103.50	9.265¢ per kWh
Canby Utility	\$14.00 to \$30.00 ³⁷	3.68¢ per kWh
McMinnville Electric	\$52.52	7.653¢ per kWh
Regional Average	\$48.00 to \$52.20	\$6.0682¢ per kWh

Source: City of Forest Grove from Internet search

Substation Master Plan

The substation master plan addresses improved equipment reliability, capacity for reasonable load growth, and identifies a path to accommodate future city service expansion.

³⁵ Blended rates

³⁶ Blended rates

³⁷ Base charge for general 1-phase and 3-phase service.

Proposed improvements

Year	Actions	Budget
2013-14	Engineer for the replacement of transformers at Forest Grove and Thatcher; purchase the transformer, circuit switcher, and associated equipment for Thatcher substation, purchase and install feeder relays at Filbert substation	\$1,050,000
2014-15	Install the transformer, circuit switcher and associated equipment at Thatcher, purchase the transformers, circuit switchers, and associated equipment for Forest Grove Substations #1 and #2, install 115kV protection upgrades with BPA.	\$2,520,000
2015-16	Install the transformer, circuit switcher and associated equipment for Forest Grove Substation #2.	\$230,000
2016-17	Install the transformer, circuit switcher and associated equipment for Forest Grove #1	\$205,000
2017-18	Purchase and install circuit switcher and associated equipment for Filbert Substation	\$270,000
Total		\$4,275,000

Source: City of Forest Grove, Light and Power Department, Substation Master Plan (2013)

BPA Fuel Mix Summary

Fuel mix percent summary, June 2013, based on calendar year 2012 data

Type	Percent
Biomass and Waste	0%
Coal	0%
Geothermal	0%
Large Hydroelectric	85%
Natural Gas	0%
Non-Specified Purchases	4%
Nuclear	9%
Small Hydroelectric	1%
Solar	0%
Wind	1%

Source: Bonneville Power Administration

Aggregate load data indicates that there has been a slight decline in average load from the City over the past 12 years³⁸. Daily peak loads have been on a decline during the same interval.

Fiscal Year	MW	Load Factor
2007	54.5	54%
2008	55.3	55%
2009	55.6	51%
2010	60.2	45%
2011	51.2	54%
2012	49.3	57%
2013	51.2	56%
2014	51.4	56%
2015	51.7	56%
2016	51.9	56%
2017	52.2	56%
2018	52.5	56%
2019	52.7	56%
2020	53.0	56%
2021	53.2	56%
2022	53.5	56%
2023	53.8	56%
2024	54.0	56%
2025	54.3	56%
2026	54.6	56%
2027	54.9	56%
2028	55.1	56%
2029	55.4	56%
2030	55.7	56%
2031	56.0	56%
2032	56.2	56%
2033	56.5	56%

Source: City of Forest Grove, Light and Power Department

³⁸ Source: City of Forest Grove Light and Power Substation Master Plan, July 2013

Alternative approaches to substation capacity included:

- Purchase three new large transformers
- Purchase three smaller transformers
- Purchase three smaller transformers now and add a 2nd transformer at the Filbert substation or the Thatcher substation in the future as load requires. Each alternative provides capacity for significant future load growth.

	Existing Substation Equipment	Purchase Three 24 MVA	Purchase Three 15 MVA	Add Future 15 MVA
Base Capacity	51	87	60	75
Summer SC Peak Rating	67	118	84	112
Winter SC Peak Rating	87	153	109	146

Source: City of Forest Grove, Light and Power Department

The Light and Power Department has determined that the preferred approach is to purchase smaller transformers for the upgrades with the understanding that future load develop, added capacity can be installed at the Filbert Substation, Thatcher Substation and/or a new substation.

System Reliability

The Filbert Substation is located on the 24-mile 115kV line between BPA Forest Grove and BPA McMinnville. The Thatcher Junction Substation is located on the 47-mile 115 kV line from Forest Grove to the Tillamook Substation. It is not uncommon to have winter season storm related outages to the Thatcher Junction Substation as BPA tests and restores the 115 kV line from Forest Grove to Tillamook. Outages to the Filbert Substation are rare. System reliability could be improved through the installation of 115 kV lines from the Forest Grove Substation to both the Thatcher Substation and Filbert Substation to avoid being susceptible to outages on the BPA lines. Preliminary cost estimates for the 115 kV switching station alone (not including replacement and relocation of transformers) was in excess of \$2,000,000. The 115 kV transmission line is estimated to cost approximately \$700,000 per mile. The line to the Thatcher Junction tap would cost approximately \$1,300,000. The line to the Filbert Substation tap would cost about \$600,000. Therefore, total cost is approximately \$3,430,000.

An alternative to constructing the new 115 kV system is to approach BPA about upgrading protection on the Forest Grove to Tillamook line by upgrading the existing BPA 115 kV automatic switch with a circuit breaker and associated protective relaying. This would allow for clearing faults toward Tillamook without interrupting service to the Thatcher Junction Substation. Alternatively, either of the automatic switches at the Thatcher tap or Timber tap could be upgraded to a remotely-controlled circuit switcher with protective relaying located at the existing BPA Forest Grove Substation with control of the circuit switcher provided by fiber optic communication line. This approach could isolate the Thatcher substation from approximately 80% of the line exposure.

Land Use Impact

The Forest Grove Light and Power District is larger than the City's planning area and there are undeveloped and underdeveloped portions of the City. The possible impact of unexpected load growth is mitigated by both the Thatcher and Filbert Substations having adequate land and being arranged so that a second transformer and additional feeder capacity can be readily added. This allows capacity to be expanded as load requires. The preferred approach to additional capacity is adding transformers at Filbert and Thatcher rather than installing additional capacity at this time. This approach allows adding

capacity when and if needed. If additional capacity is needed to serve a new high-density load (industrial) it would be appropriate to build a fourth substation to serve the expanded service area. Growth north of the City could be fed by a new substation and served by a new tap to the BPA Forest Grove – Tillamook 115kV line. Should there be significant load growth and development in the urban reserve area, the City would need to acquire land for a new substation.

Goals

- Provide quality electrical service provided to Light and Power customers.
- Maintain the high satisfaction rating from customers based on the Citizen's Survey of City Services
- Emphasize preventative maintenance and equipment replacement programs including upgrading underground cable installations, replacement of obsolete and dated substation equipment and the expansion and upgrading of the distribution system.
- Encourage energy conservation and efficient use of energy resources.
- Encourage local sustainability efforts by promoting renewable energy sources.
- Provide electrical service to all energy user classes at the least possible cost.
- Maintain an equitable balance between rates charged among energy user classes.
- Evaluate City properties to determine feasibility of installing a future solar generation power facility
- Incorporate findings and recommendations from the Electrical System Master Plan.
- Reduce local reliance on petroleum and natural gas as a source of energy.
- Implement a long-range land use concept that reduces the need to travel by vehicles using fossil fuels.
- Provide an affordable and secure energy supply that increases the development and use of renewable, least toxic and less carbon-intensive sources³⁹.

Policies

1. Maintain an adequate FIRM power supply to serve anticipated growth consistent with the land use designations shown on the Forest Grove Comprehensive Plan map.
2. Obtain and maintain a 20 percent margin between the FIRM power supply and system load to allow for such contingency events as supply equipment failure, extreme weather events and unanticipated load growth.
3. Participate with other agencies and utilities in the evaluation and construction of additional power resources which show promise of becoming economically feasible.

³⁹ ICLEI, Local Governments for Sustainability, Star Community Index, Sustainability Goals and Guiding Principles.

4. Participated with other agencies and utilities in the development of sustainable energy resources.
5. Develop and implement programs to assist customers to reduce electrical energy use.
6. Periodically update the long range distribution system plan.
7. Periodically perform a cost of service study and use the results of the study along with accepted utility practices to adjust electric rates.
8. Utilize industry accepted best management practices for the operations and enhancement of the electrical utility
9. Continue participation in the National Arbor Day Foundation Tree Line USA program to reduce conflicts between trees and overhead power lines.
10. All new development shall be served by underground electrical utilities
11. Adopt a Capital Improvement Program for electrical system needs based on budgetary constraints.
12. Work with partners to reduce fossil fuel consumption and increase use of renewable energy resources.
13. Reduce vehicle miles traveled
14. Monitor and actively participate in requests for new natural gas pipelines near the Forest Grove planning area.

Capital Improvement Program

Source: City of Forest Grove, Light and Power Department

Project	Description	Cost
Substation Upgrades	Replacement of substation transformers, battery banks and protective equipment. The Forest Grove substation is anticipated to be completely rebuilt with a revised physical layout to provide a better connection to the upgraded BPA 115 kV yard, make better use of the property available, and to provide an improved grounding system. With completion of this project, the Forest Grove substation capacity will be greatly increased, and major equipment will have been replaced with newer technology able to provide a higher level of service.	\$5,823,000
Distribution System and Additions Upgrades	Purchase of equipment for monitoring substation operations. Improvements to the distribution system will improve electric reliability to the 24 th Avenue industrial area and provide better coordination protective devices in the electrical distribution system.	\$415,000

Natural Gas and Petroleum

The City of Forest Grove is located within the Northwest Natural gas service area. According to the State of Oregon Energy Assurance Plan (2012), Oregon imports 100% of its natural gas. Two natural gas pipelines currently serve Oregon: The Williams Company Pipeline and the Gas Transmission Northwest Pipeline owned by the TransCanada Corporation. Northwest Natural serves approximately 80% of Oregon's retail customers including Portland, the Willamette Valley and coast. Northwest Natural receives gas from the Williams pipeline. The Williams Pipeline brings natural gas from British Columbia and the Rocky Mountain region. Northwest natural owns underground gas storage facilities in Mist and LNG storage facilities in Newport and Portland. Northwest natural also has contracts to use LNG storage facilities at Plymouth, Washington and underground storage at Jackson Prairie, Washington.

Oregon does not have petroleum resources or refinement facilities⁴⁰. Therefore, Oregon must import 100% of its petroleum needs from outside the state. More than 80% of Oregon's petroleum originates in the Alaska North Slope oil fields. Another source of petroleum for Oregon is the Western Canada

⁴⁰ Oregon Energy Assurance Plan (2012)

Sedimentary Basin. Less than five percent comes from the lower-48 continental United States, Mexico, Indonesia, or the Middle East.

Oil refineries located near the Puget Sound in Washington provide more than 90% of Oregon's refined petroleum products⁴¹. Only minor amounts arrive on ship from California, and the Pacific Rim countries of Indonesia, South Korea or Japan.

Public Safety

Issue:

As a full service city the City of Forest Grove is committed to providing high quality public safety services. This includes fire and police protection.

Findings

Analysis of Fire Department Constraints and Capabilities

The Forest Grove Fire Department has a defined firefighting capability which provides the community with a basic level of fire protection. It should be recognized that this level of protection fluctuates daily as a result of calls for service, availability of personnel, and availability of mutual aid. The level of service is also affected by the budget allocation to the Fire Department by the City Council and ability to leverage grant opportunities.

The ability to respond to calls for service is also affected by the community's land use pattern since the extent of the developed urban area affects response time. The transportation system needed to serve the land use pattern also affects level of service and response times. The Water Master Plan identifies specific areas where fire flow should be improved. Deficient fire flow and is a potential impediment to development.

As the community grows an additional fire station may be needed to serve the northwest area to reduce response times and better serve newly developed areas. This portion of the planning area is characterized by sloping topography and is forested. This poses a potential risk for fire related to the wildland/urban interface. Development standards could decrease the fire risk related to the wildland/urban interface. In general, the fire risk in the Forest Grove planning area is manageable.

⁴¹ Oregon Energy Assurance Plan (2012)

Public Facilities & Community Services

Public Safety

Critical Facilities

The Forest Grove Fire Department identified the following critical facilities serving the City:

City and Government Facilities

- Forest Grove City Hall
- Forest Grove Community Auditorium
- Forest Grove Library
- Forest Grove Police Department
- Forest Grove Fire Station
- Forest Grove Fire Station - Gales Creek Community

Utilities

- Forest Grove Public Works Operations
- Forest Grove Light and Power
- Forest Grove Water Treatment Plant
- Frontier Communications Switch Center (College Way)
- Waste Management B Street Transfer Station

Schools

- Tom McCall Upper Elementary School
- Central School Office
- Taylor Way Annex Learning Center
- Joseph Gale Elementary School
- Harvey Clarke Elementary School
- Forest Grove High School
- Forest Grove Community Charter School
- Neil Armstrong Middle School
- St. Francis Catholic Private School
- Westside Christian School (E Street and Pacific Avenue)
- Pacific University

Medical and Assisted Living Facilities

- Forest Grove Community Hospital
- Jennings McCall Center
- The Grove Assisted Living
- Gardens of the Grove
- The Elms
- Marquis Care
- Marquis Vintage Suites
- Beehive Assisted Living
- Hawthorne House Alzheimer's Care
- Wynwood of Forest Grove
- Forest Grove Rehabilitation

- Quince Street Senior Apartments
- The Homestead Senior Community

Analysis of Police Department Constraints and Capabilities

The Forest Grove Police Department provides law enforcement patrol, investigative services, crime prevention and community outreach. As of 2011, the Forest Grove Police Department employs 29 sworn officers including a chief, two captains, four sergeants, two detectives, and 19 patrol officers including on school resource officer, one transit officer and one motor officer. The Police Department also employs two non-sworn part-time community service officers, a support unit supervisor, an evidence technician, and two records specialists. A volunteer chaplain also serves the members of the department and the community.

The Forest Grove Police Department participates with several interagency teams include the Crash Analysis Reconstruction Team, Tactical Negotiations Team, Washington County Elder Abuse Multidisciplinary Team, and Washington County Child Abuse Multidisciplinary Team.

The Forest Grove Police Department processed 22,710 calls for service in 2011. Department personnel investigated 2,568 separate cases. Dispatched calls include those reported to the Washington County Consolidated Communications Agency (WCCCA) or through the Forest Grove Records Division.

In 1999, the City of Forest Grove had a population of 16,275 while employing 25 sworn police officers. In 2009, the estimated population of Forest Grove was 21,500 while employing 29 sworn police officers.

The City of Forest Grove Police Department budget is primarily comprised of General Fund revenue. Approximately 11% of the Police Department budget comes from other state funds, department services and inter-agency agreements. For Fiscal Year 2011/2013, approximately 88% of the Police Department Budget was for personnel services and 12% for materials and services.

The total budget for the Police Department in 2012-2013 was approximately \$4,428,000. This is up from approximately \$3.5 million in 2007-2008. The City of Forest Grove has approximately 1.35 sworn officers per 1,000 persons.

Police Protection and Urban Growth

The City's land use pattern and transportation system directly impacts the ability to provide timely response for calls for service. A compact city, served by a network of arterial and collector streets, supports consistent response times throughout the City. The northwest part of the Forest Grove planning area is primarily designated for lower density single family residential development. Direct transportation routes serving planned neighborhoods are necessary to ensure adequate levels of service as the community grow over time. Additional officers will be needed to maintain service levels as population increases over time.

General Public Safety Goals

1. Provide a high level of public safety services including police and fire protection commensurate with development in the community.

2. Support the Public Safety Advisory Commission in their efforts to create livable neighborhoods through adequate public safety funding
3. Continue and enhance partnerships with public agencies and private organizations committed to public safety.
4. Recognize that land use and transportation policies influence emergency response needs.

General Public Safety Policies

1. Provide adequate funding so all areas of the City's planning area receive police, fire and emergency services.
2. Coordinate plan review with public safety and emergency services providers to ensure public safety needs are met.
3. Review transportation improvements to ensure that public safety needs are met.

Fire Department Goals

1. Continue implementation of the Fire Department's strategic plan. Strategic goals include:
 - a. Develop and maintain the highest possible level of service delivery
 - b. Maintain long-term strategic planning
 - c. Expand community outreach to meet the community's vision
 - d. Utilize available technology to enhance service delivery and efficiency
 - e. Develop and maintain strategic partnerships
 - f. Enhance internal relations, communications and employee development.
2. Continue development of the City's emergency operations plan to meet federal and state National Incident Management System standards.
3. Enhance and improve the community's risk reduction program through fire prevention classes, Community Emergency Response Team (CERT) training, and other community outreach efforts.
4. Work with neighboring departments and develop public and private partnerships to enhance emergency service delivery in the region.

Fire Department Policies

1. As part of the strategic planning process, the Fire Department will develop a more accurate response-time measurement program.
2. The Fire Department will maintain the emergency operations plan for the City and continue partnerships with neighboring agencies.
3. The Fire Department will continue to improve the community risk reduction program to increase effectiveness.

Public Facilities & Community Services

Public Safety Goals and Policies

Police Department Goals

1. Promote relationships with the community through neighborhood watch, safety fairs and community events.
2. Apply for and obtain specific traffic safety grants
3. Identify opportunities for a new location for the Police Department including sites for a satellite facility to reduce response times and maximize service delivery.

Police Department Vision Statement

- To be the best law enforcement agency in Washington County in terms of professional reputation.
 - Professional representation on regional investigative teams
 - Professional working relationships with other law enforcement agencies
 - Positive working relationships with stakeholders
- To be a career destination for law enforcement professionals – sworn and civilian.
 - Be a learning organization promoting professional development
 - Targeting recruitments consistent with department mission and values
- To be an allied partner agency with regional stakeholders – promoting the interests of Forest Grove in furtherance of City goals.
 - Policy development and review in concert with city goals
 - Coordinated training with other law enforcement agencies
- For Forest Grove Police Department employees to be proud of their affiliation with the department, city, and community.
 - Promoting spirit de corps through employee involvement
 - Maintaining accountability and responsibility
 - Rewarding behavior consistent with departmental mission and goals
- To be fully capable of meeting all reasonable investigative, crime prevention, patrol, and traffic needs of the citizenry as growth impacts the community.
 - Forecasted budgeting reflecting the needs of the community
 - Stewardship and accountability of all entrusted public funds.

Administrative Facilities and Services

Issue

As a full service city, the residents of Forest Grove expect cost-effective and efficient delivery of public services meeting their day-to-day needs. As the City grows over the next 20 years new ways of providing municipal service will be required to meet the demands of a growing community.

The Comprehensive Plan addresses administrative facilities and services since municipal operations have a land use component. For instance, acquisition of land and construction new facilities such as fire stations and police substations may be needed to serve a growing community. Conversely, consolidating administrative offices to efficiently provide municipal services could reduce land use needs. When new or remodeled facilities are needed, however, thoughtful design could further the City's sustainability and energy efficiency goals which is a fundamental principle of the Comprehensive Plan.

Findings

City services are scattered among several buildings including

- City Hall
- Engineering Department
- Public Works Building
- Parks and Recreation Building
- Library
- Police Department
- Fire Department
- Light and Power Building
- Corporate Yard
- Community Auditorium

City Hall/Administrative Offices

The Forest Grove City Hall is located at 1924 Council Street in the Forest Grove Town Center. Built in 1928, it originally housed all municipal departments except Light and Power. As the City grew, the original City Hall became too small to accommodate all administrative offices and city departments. In 1957, the City Hall was remodeled and the Fire Department was relocated. This relieved some of the pressure for additional administrative offices until the late-1970s.

Public Facilities & Community Services

Administrative Facilities & Services

In 1976, the City of Forest Grove was awarded a federal Economic Development Administration grant to renovate the fire station and build a new facility for the Police Department and community library and remodel City Hall into administrative offices. The remodel was completed in 1980.

City Hall currently houses the office of the City Manager, Administrative Services Department including finance, utility billing, and information services, and Community Development Department (Planning and Building Services). The Public Works Engineering Division is located adjacent to City Hall in a separate building.

The physical layout, including size and location of the administrative offices, directly impacts the ability to provide cost-effective and efficient municipal services for the community. Effective delivery of public services requires interaction among staff members and the general public. The current configuration of City Hall does not provide adequate space for meeting with the public and interaction among staff members collaborating on projects such as planning and engineering staff.

Engineering Division Office

The Engineering building is located at 1928 Council Street near City Hall. The building is a single story structure approximately 3,900 square feet area. The building has a concrete exterior wall, shares a brick masonry party wall with the building to the north and has wood roof structure. The building requires accessibility improvements to meet requirements of the Americans with Disabilities Act.

The Engineering Division office is only accessible to city staff located at City Hall through an exterior entrance. The City Engineering staff works closely with Planning and Administrative Services staff on a variety of projects. Being physically separated from City Hall creates administrative inefficiencies that could be improved through consolidation of offices.

Police Department

The police station is a single story 12,900 square foot building with a partial basement and small mechanical mezzanine. The building was originally constructed in 1977 and appears to be largely unmodified. The building is constructed at the same time and is connected to the library to the east. The police station and library share a basement level mechanical room. The roof was replaced in 1996. ADA accessibility is provided at the north (public) entrance. Restrooms and door hardware throughout the building do not meet ADA requirements. A facilities assessment prepared for the City in 2009 by SERA Architects concludes that the current building configuration and building elements creates overlapping circulation paths and non-secure spaces which are not well suited for the current police operations.

Public Works Office

The Public Works Office is a single story building approximately 8,600 square feet in area. The building is located at 2551 23rd Avenue and was originally constructed in 1990. The building is divided into two sections, the western office portion and a high bay vehicle service shop to the east. The building has a split-face CMU exterior bearing wall with a stick frame wood interior. The Public Works storage building is a single story prefabricated metal 5,100 square foot structure built in 1990.

Parks and Recreation Office

The Parks and Recreation Office/Public Works Storage building is a 9,100 square foot building likely constructed in the early 1940s. The building is divided into two sections. The south section is a two story office/storage section and north section is a large high bay space used for vehicle storage and some repair functions. The exterior wall is constructed of bearing CMU with large wood bowstring trusses carried on wood pilaster as the roof structure.

Aquatics Center

The Aquatics Center is located at 2300 Sunset Drive. The aquatic center building houses the community pool and associated facilities and the office of the Parks and Recreation Director. The building's footprint is approximately 21,800 square feet in area. The first outdoor pool opened in 1943. The indoor building was built in 1968 and renovated in 2001.

Light and Power Building

The Light and Power building is located at 1818 B Street. The building is a single story 25,300 square foot structure with a small mezzanine. The building was originally constructed in 1966 and remodeled in 2012. The building is divided into two spaces. The eastern portion houses the utility offices and conference room. The western portion includes a storage mezzanine. The building has concrete tilt up walls with wood glu-lam structure with tongue and groove decking exposed in the interior.

Community Auditorium

The Community Auditorium is located at 1915 Main Street near City Hall. The Community Auditorium was constructed in 2002 and is approximately 5,200 square feet in area. The Community Auditorium provides meeting space for the City Council, boards and commission, and municipal court. The Community Auditorium is also used for general community events sponsored by public and private organizations.

Water Treatment Plant

The Water Treatment Plant is located at 501 Watercrest Road.

Sewage Treatment Plant

The sewage treatment plant is located at 1345 Fern Hill Road.

Administrative Services Goals

1. Provide cost-effective and efficient delivery of public services
2. Retain City administrative services in the Forest Grove Town Center
3. Consolidate administrative functions to provide, cost-effective, efficient, and accessible municipal services.
4. Provide for staffing levels commensurate with the level of service desired.

Administrative Services Policies

1. Seek funding for adequate governmental facilities to accommodate needed administrative services.
2. Reduce the cost of providing public services by integrating technological advances in delivery systems.
3. Program administrative services and staffing on an annual basis tailored to the needs and financial capabilities of the community
4. Continue the system of user fees which reflects the true cost of providing municipal services and recognize that city services shall not be provided to non-residents on a subsidized basis by city property tax payers.
5. Adopt a capital improvement program and schedule for all City capital improvement needs based on budgetary constraints.
6. Meet minimum Leadership in Energy and Environmental Design (LEED) standards for new municipal buildings.
7. Employ technology where appropriate to encourage delivery of public services and information electronically.
8. Establish and enhance partnerships to share physical resources among neighboring cities and other public service providers.
9. Make ADA accessibility improvements to the Engineering office.

Land Use Impacts

The Master Plan zone described in the Forest Grove Development Code is a tool to promote and facilitate the coordinated development of larger-scale institutional facilities through adoption of a master plan. Government complex is one type of use appropriate for the master plan zone designation. The master plan zone provides an opportunity to look at city administrative needs comprehensively to meet current and future needs in an efficient and cost-effective manner.

Public Facilities & Community Services

Administrative Services Goals & Policies

Constraints

Funding is the biggest identified constraint to addressing current and future administrative facility needs. Other constraints to maximizing efficiency include the age and condition of administrative facilities and location.

Library

It is the mission of the Forest Grove Library to provide the community with ready access to a broad spectrum of materials in a variety of media that record our knowledge, ideas, and culture. All members of the Forest Grove Library staff, Library Commission and City Council support, protect, and facilitate every person's rights to access library resources.

In December 1908, the Forest Grove City Council established the first public library for the City of Forest Grove. The library occupied part of a stationery store on the corner of what is now 21st Avenue and College Way. Mrs. A.F. Rogers later bought the building occupied by the library and gave it to the City. The library was named the Rogers City Library in her honor.

Lack of space was a problem addressed when the City was awarded a federal grant in 1976 for construction of a municipal service center at Pacific Avenue between Ash and Birch Streets that would include a new library building. The building is approximately 24,700 square feet in area. The new library was renamed the Forest Grove City Library and was dedicated on October 4, 1978. The library has been renovated over the years. The library remains on Pacific Avenue today.

The Forest Grove Library is a member of the Washington County Cooperative Library Services (WCCLS). Through this arrangement, Washington County residents receive tax payer supported access to all public libraries in Washington County. Member libraries receive funding based on an adopted reimbursement agreement supported by revenues from Washington County, including a County-wide levy. Other services received from this membership include: access to the county-wide library catalog, daily courier service among member libraries, database subscriptions services, and a reciprocal borrowing agreement with Multnomah, Clackamas, Fort Vancouver and Hood River Library Systems.

The Forest Grove Library receives approximately 72% of its funding for operations from the WCCLS. Other revenue supporting library operations include various fees, charges and fines which comprise about 3% of the library's budget. The remaining 25% of the library's operating budget comes from the City's General Fund. The library also receives support for one-time purchases from the Friends of the Library, the Library Foundation, and periodic donations.

Public Facilities & Community Services

Library

Library operations are supported by 11.3 full time equivalent positions this includes a Library Director, two service supervisors, 2.55 adult/youth services librarians, 5.50 library associate/assistants, and a quarter time volunteer coordinator.

To meet growing demand a satellite library facility could better serve the northwest area of Forest Grove and anchor a neighborhood mixed-use development area serving this part of the City.

Performance Measures

- Access to Facility and Collections (Calendar Year 2011)
 - Library Visits = 222,822 persons came into the library
 - Library Cards Issued = 1,704 new registrations
 - Items checked out = 411,944
 - Volunteer assistance provided = 6,010 hours
- Reference Assistance
 - Reference questions answered = 15,176
 - Hold and Interlibrary loan requests = 278,888
- Programming for All Ages (Calendar Year 2011)
 - Children's programs presented = 186 programs/6,022 persons attending
 - Adult programs presented = 79 programs/1,013 people attending.

Constraints

Given the high level of support from the City's General Fund the library is vulnerable to service reductions due to competition for limited resources. The Library has been successful with recruiting volunteers to help paid library staff.

Library Goals

1. Provide and maintain high quality public library facilities and services. (87-7);
2. Provide public library services that are responsive to the needs of the community;
3. Provide the most effective service possible;
4. Provide an adequate number of books and other library materials to support the library program;
5. Provide adequate, sustained financial support for the public library program;
6. Continue the partnership with WCCLS;
7. Retain the main library branch in the Forest Grove Town Center;
8. Residents consider libraries the "front porches" of their communities by creating a welcoming environment for residents and recognizing that libraries contribute to building communities. [From WCCLS Long Range Service Plan, 2010 to 2020.]; and

Public Facilities & Community Services

Library

Goals & Policies

9. Residents will have opportunities to explore cultural diversity through the library. [From WCCLS Long Range Service Plan, 2010 to 2020].

Library Policies

1. Assure services to all age levels and to minority groups and the handicapped through development of the city libraries collection, technology, services and through cooperation with other libraries;
2. Establish procedures to receive adequate input from the community (87-7);
3. Arrange library-oriented programs for cultural enrichment of the community;
4. Monitor effectiveness of services by accepted professional standards;
5. Set annual service standards in preparation of budget and periodically review performance toward these standards;
6. Participate with other public libraries, schools and other institutions to avoid needless duplication of services and minimize the need to expand facilities;
7. Cooperate with museums, libraries and other institutions to preserve materials related to local history;
8. Cooperate with other city departments and City Council in seeking reliable revenue source for city operations;
9. Service patrons outside the city limits and cooperate with other libraries and other library systems;
10. Adopt and implement procedures to collect and report results of certain output measures including:
 - a. Circulation per capita
 - b. In-library use per capita
 - c. Library visits per capita
 - d. Program visits per capita
 - e. Reference transactions per capita
 - f. Reference fill rate
 - g. Title, subject and author fill rate
 - h. Registration as a percentage of population (87-7); and
11. Adopt and abide by a Mission Statement (see beginning of narrative).
12. The Forest Grove Library has adopted and will adhere to the Library Bill of Rights as written by the American Library Association.

Health Services

Issue:

Hospitals are considered essential facilities for purposes of transportation and emergency response planning. With an expected increase in population within Forest Grove the City must plan for new healthcare facilities with providers of healthcare services. Land must be designated on the Comprehensive Plan map to ensure opportunities for an adequate level of health services to the population.

Findings:

The City is served by a variety of healthcare providers including:

- Forest Grove Community Hospital (Tuality Healthcare);
- Forest Grove High School Clinic;
- Virginia Garcia Clinic (Cornelius);
- Pacific University Optometry Clinic;
- Maple Street Clinic;
- Mountain View Medical Center;
- Geneva Health Center (Urgent Aid);
- Washington County Department of Health and Human Services; and
- Offices of Private Practitioners.

The Forest Grove Community Hospital has been part of the City of Forest Grove since 1962. Several clinics, care facilities and senior living centers have located near the hospital. Forest Grove Hospital became part of Tuality Healthcare in 1982 and many services previously offered in Forest Grove including surgery and obstetrics were transitioned to Tuality's main hospital in Hillsboro. The existing hospital property in Forest Grove is approximately 191,000 square feet in area developed with a building approximately 42,800 square feet in area. Today, the Forest Grove Community Hospital employs approximately 173 people (100 full time equivalent positions) and primarily provides emergency and geriatric care services. In addition to the Tuality Hospital in Hillsboro there is a Kaiser Permanente hospital in Hillsboro that opened in 2013. A future east-west transportation connection north of Forest Grove providing direct access to Hillsboro would improve access to the Kaiser Permanente Hospital. Other hospital facilities serving the general area are located in southwest Portland and McMinnville.

Public Facilities & Community Services

Health Services

Forest Grove Hospital



Forest Grove is home to several assisted living facilities providing residence to over 600 persons. Assisted living facilities in Forest Grove include:

- Jennings McCall Center (2300 Masonic Way);
- Marquis Care (3300 19th Avenue);
- Elms Residential Center (2030 Elm Street);
- Wynwood of Forest Grove (3110 19th Avenue);
- Grove Assisted Living (2112 Oak Street);

- Camelot Care Center (3900 Pacific Avenue);
- Gardens at the Grove (2112 Oak Street);
- Forest Grove Beehive (2122 Hawthorne Street); and
- Hawthorne House (2635 21st Avenue).

Many of the assisted living facilities are located near the Forest Grove Community Hospital.

Several small scale residential care homes also exist in Forest Grove providing care for persons with disabilities. Group living for five or fewer residents is permitted by right within residential zones. Group living with six or more residents requires conditional use approval within residential zones. Conditional uses are subject to review because they may have adverse effects on the environment, overburden public services, or create nuisances. The conditional use review process provides an opportunity to allow the use when there are minimal impacts, to allow the use but impose conditions to address identified concerns, or to deny the use if concerns cannot be resolved.

Group living is permitted outright within the City's Community Commercial zone.

Analysis of Land Use Impacts

Forest Grove has a large elderly population influencing the demand for healthcare services in the community. This demand will continue as the population ages. Adequate sites must be designated to accommodate the expansion needs or new assisted care facilities serving current and future residents. The City has an adequate reserve of land designated as residential multiple family or commercial that could accommodate assisted living facilities.

Constraints

The most significant constraint to health services in the community is the reliance on the Tualatin Valley Highway as the only major east-west transportation link to Hillsboro. Hillsboro is home to the main Tuality Healthcare campus. Significant traffic delays or road closure could affect the ability to provide necessary emergency services in a timely manner. Construction of an alternative east-west connection, such as the extension of Evergreen Road west could provide improved access to the Kaiser-Permanente hospital in Hillsboro.

Health Services Goals

1. Provide opportunities through City land use and development policy to ensure the health service needs of the entire community are met locally;
2. Establish and maintain a local health system that monitors and improves community health and provides equal access to affordable, quality health services⁴²;
3. Promote good health and reduced healthcare costs through land development and transportation policies by encouraging active transportation (walking and bicycling) and recreational opportunities;
4. Use the Master Plan Zone to comprehensively review healthcare campus proposals;
5. Encourage “aging in place” through land use and building codes; and
6. Promote community food security and equitable physical and economic access to safe, nutritious, and culturally appropriate food at all times for every resident across a community and provide opportunities for residents to grow their own food⁴³.

Health Service Policies

1. Work with the owner of the Forest Grove Community Hospital to implement the Forest Grove Healthcare Master Plan;
2. Designate sufficient and suitable land on the Forest Grove Comprehensive Plan Map for public and private institutional uses including hospitals, clinics and assisted care facilities. Hospitals and clinics are appropriate uses within institutional development districts. Hospitals and associated medical facilities should be planned in advance through the City’s Master Plan Zone process. Assisted care facilities are appropriate within commercial areas and land designated for high density multiple family housing as a conditional use;
3. Designate sufficient and suitable land on the Forest Grove Comprehensive Plan Map for professional offices including physicians, dentists, optometrists and healthcare providers. Such uses are appropriate for commercial and mixed-use development districts; and
4. Provide opportunities for active transportation in land development and transportation regulations.

⁴² ICLEI, Star Community Index

⁴³ ICLEI, Star Community Index, Opportunities for residents to grow their own food is both a sustainability issue and land use issue appropriate for the Comprehensive Plan.

Solid Waste and Recycling

Solid waste and recycling is an issue of regional significance. As such, Metro has the primary responsibility for solid waste planning and management within the Portland region. Municipal solid waste ordinances, regulations, and contracts are required to conform to the regional solid waste management plan. Key issues addressed in the Metro Solid Waste Management Plan include:

- Reducing the amount and toxicity of waste generated and disposed;
- Advancing sustainable practices throughout the region's solid waste operations; and
- Ensuring the disposal system continues to serve the best interests of the region.

Local Responsibilities

Cities and counties are responsible for regulating and managing solid waste and recycling collection within jurisdictional boundaries and reviewing collection rates and service standards. Local solid waste collection and recycling is provided by a local company through franchise agreement with the City.

A regional solid waste transfer station is located in Forest Grove on B Street. Loads of solid waste are consolidated for transfer to landfills. The Forest Grove transfer station is privately owned. The annual throughput at the Forest Grove transfer station is 168,000 tons per year in 2006 (Metro SWMP). The Hillsboro Landfill the closest landfill to Forest Grove. The Hillsboro Landfill is a limited-purpose facility that is permitted by DEQ to take only dry waste and some special waste. In 2007, Metro estimated the reserve capacity at the Hillsboro landfill at 6 million tons.

Regional Solid Waste Management Vision

The Regional Solid Waste Management Plan envisions a significant evolution in today's comprehensive solid waste management practices, to a future where waste is viewed as an inefficient use of resources. Through cooperation and shared responsibility among producers, consumers, and government, the region will contribute to the sustainable use of natural resources to enhance our community, economy and environment for current and future generations.

**Public Facilities
& Community
Services**

**Solid Water &
Recycling**

Regional Solid Waste Management Values

The Regional Solid Waste Management Plan identifies the following values:

1. Resource Conservation

- Protecting the environmental quality of the region by conserving resources and reducing toxic and solid waste to ensure adequate resources for future generations.

2. Public Health and Safety

- Ensuring solid waste management operations, eradicating illegal dumps and reducing toxic substances to maintain quality of life for the region's residents.

3. Shared Responsibility

- Promoting a shift away from managing products after they have become waste to instead include manufacturers and users in bearing or avoiding the costs associated with product management and disposal.

4. Life-long Learning

- Raising awareness among all age groups of ways to conserve resources and reduces impacts on the environment.

5. Coordination and Cooperation

- Addressing regional issues and developing regional programs in partnership with local government, the private sector, citizens and other key parties.

6. Performance

- Emphasizing outcomes in programs and services to maximize efficiency and effectiveness.

7. Access

- Providing residential and commercial customers with access to information and a range of collection and facility service operations.

Regional Policies

1. System Performance

The regional solid waste system will perform in a manner that is environmentally sound; regionally balanced; cost-effective; adaptable to change; technologically feasible; and acceptable to the public.

2. Preferred Practices

Solid waste management practices will be guided by the following hierarchy:

1. Reduce the amount of solid waste generated;
2. Reuse material for its originally intended purpose;
3. Recycle or compost material that cannot be reduced or reused;

4. Recover energy from material that cannot be reduced, reused, recycled or composted so long as the energy recovery facility preserves the quality of air, water and land resources; and
5. Landfill solid waste that cannot be reduced, reused, recycled, composted or from which energy cannot be recovered.

Solid Waste and Recycling Goals

1. The City of Forest Grove administration and operations will lead by example by promoting recycling and reuse throughout the organization;
2. Develop and implement performance measures to track outcomes with respect to local solid waste management programs;
3. Encourage the reuse of building materials through public policies and actions when buildings and building sites are redeveloped;
4. Minimize waste and optimally recycle material resources to protect natural systems by reducing resource extraction, greenhouse gas emissions, and air and water pollution⁴⁴; and
5. Ensure that new commercial and multiple-family residential construction incorporates functional and adequate space for on-site storage and efficient collection of solid waste prior to pick-up and removal by haulers.

Solid Waste and Recycling Policies

1. Acknowledge that solid waste management and recycling is a regional issue requiring coordination between the City of Forest Grove and Metro;
2. Commit to long term sustainability of natural resources by recognizing the link between solid waste reduction and reuse of materials, and recycling; and
3. Adopt standards in the Development Code of solid waste and recycling storage.

The map below shows the regional solid waste facilities within the Portland region.

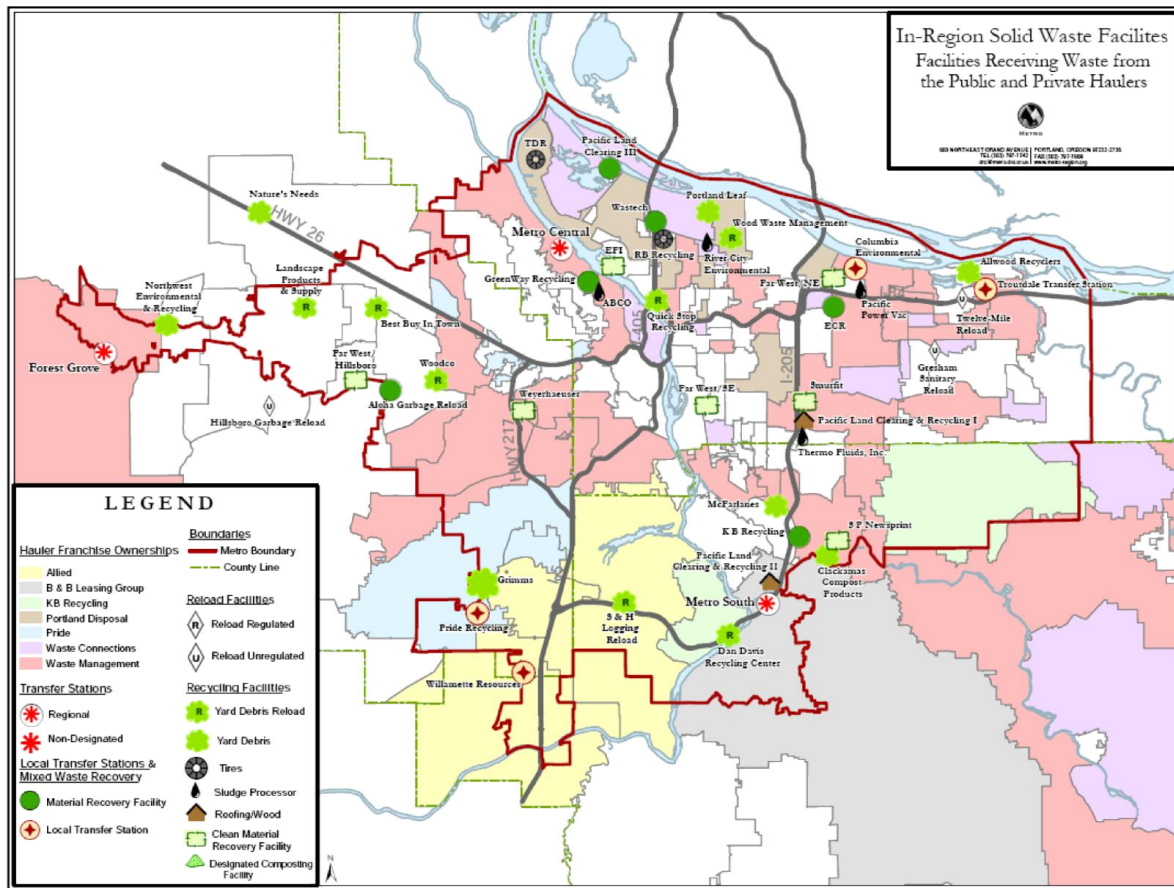
Public Facilities & Community Services

Solid Waste & Recycling

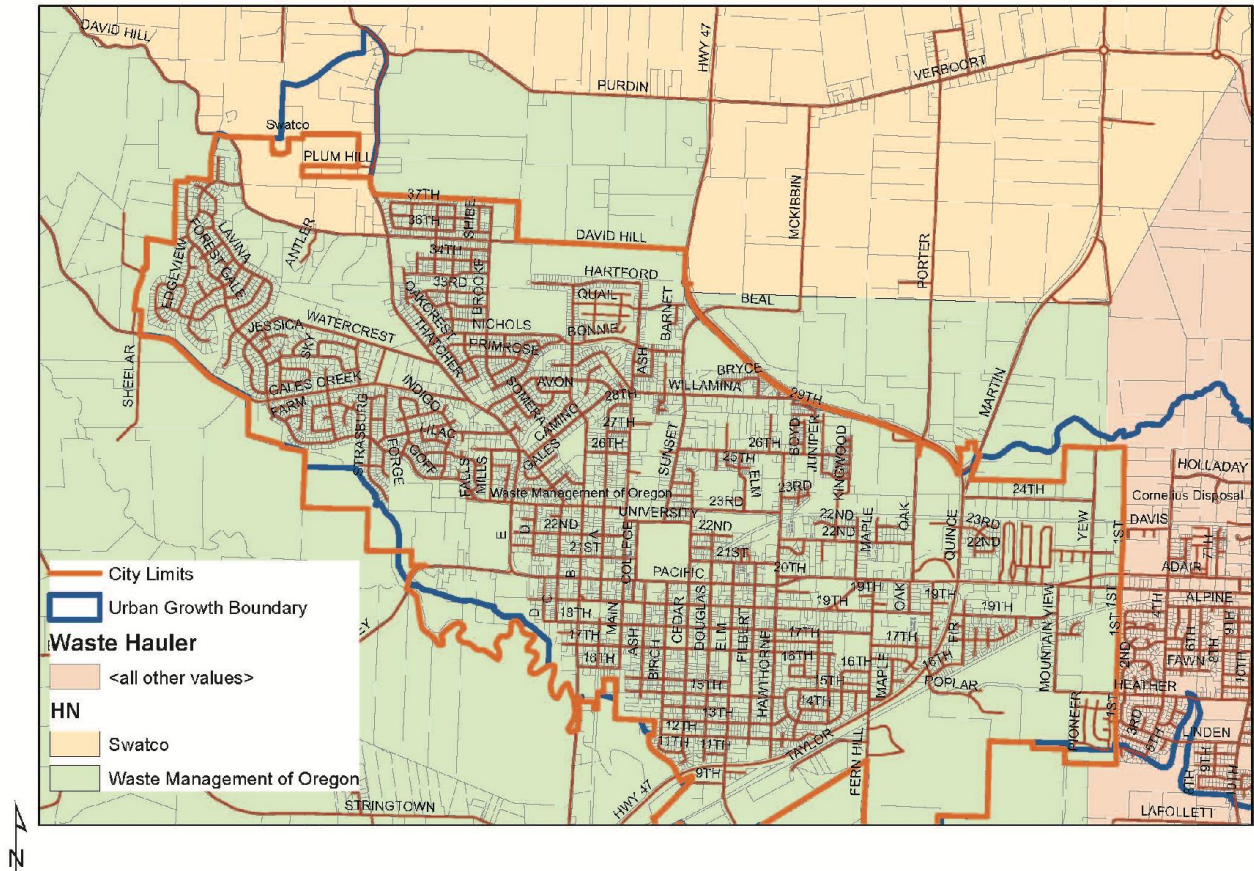
Goals & Policies

⁴⁴ ICLEI, Sustainability Goals & Guiding Principles, October 2010
Forest Grove Comprehensive Plan (2014)

Regional Solid Waste Facilities



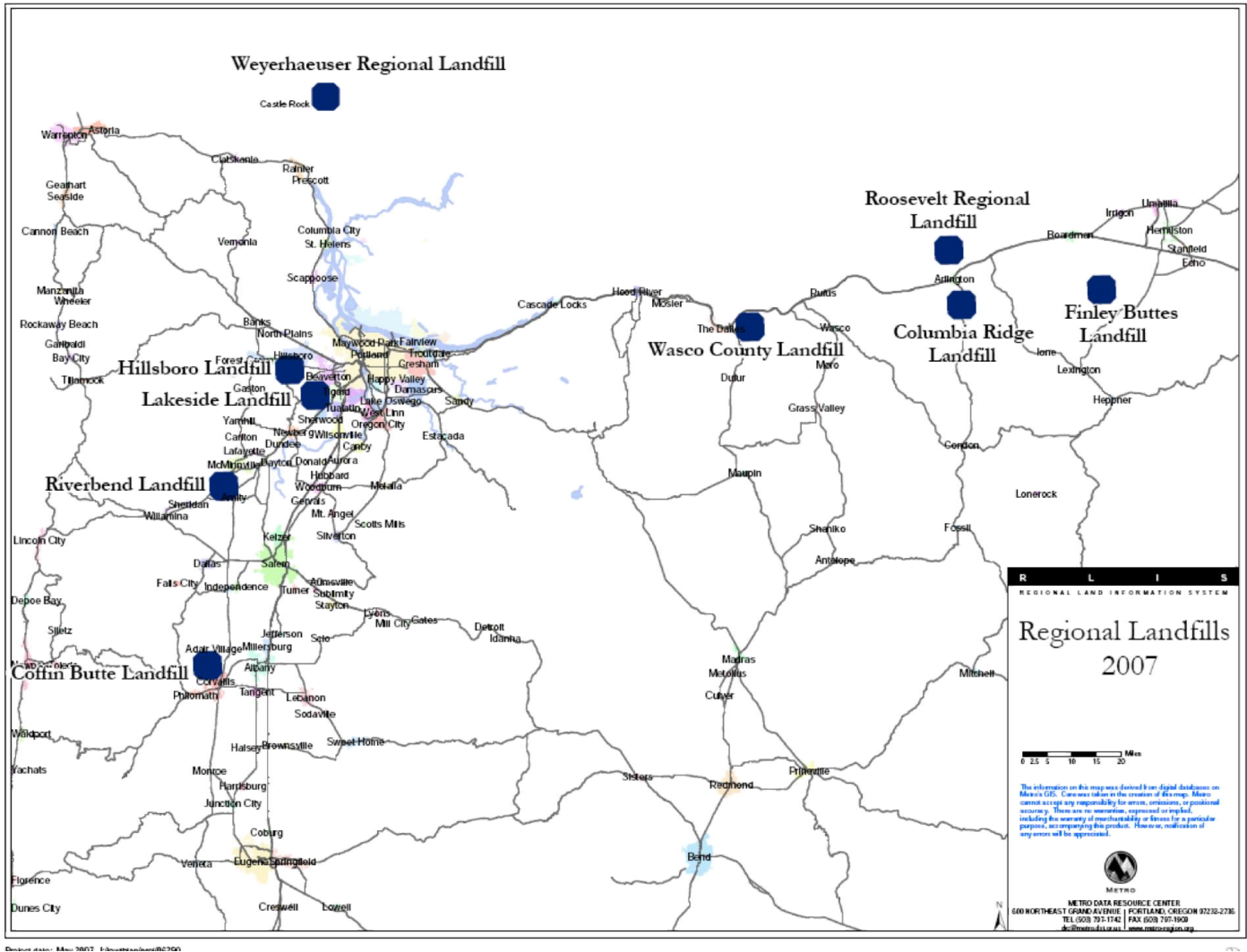
Waste Hauler Boundaries



Forest Grove Solid Waste Transfer Station



Landfills



Communications

Issue

Telecommunications is a critical service supporting local to economic development, response to natural disasters and other emergencies and general quality of life.

Findings

The City of Forest Grove is served by a number of telecommunications providers offer landline and wireless services. The City is also served by two weekly newspapers the Forest Grove News-Times and Forest Grove Leader. The City is also a member of the Washington County Consolidated Communications Agency providing communication services for police, fire and emergency response.

Telecommunications providers in Forest Grove include:

- Frontier Communications (landline telephone, Internet and fiber optic television);
- Comcast (telephone, Internet and cable television);
- Various private wireless/cellular telephone providers; and
- Various private satellite television providers

Constraints

Communication infrastructure has impacted land use throughout the years. This is evident by the location of telephone poles, cell phone towers, wireless internet hubs, traffic cameras, and other devices relaying information. Perhaps the biggest impact resulting from advances in communication over the past twenty-years is the ability to conduct business anywhere at any time provided adequate support networks are in place. Support networks include server farms, adequate internet bandwidth and reliable, cost-effective electrical service. Forest Grove is well suited to support telecommunication facilities requiring electrical services.

Communications Goals

1. Partner with private and public telecommunications providers to enhance the delivery of communication service within the Forest Grove planning area;
2. Telecommunications facilities should be co-located whenever possible to minimize impacts on the community;

Public Facilities & Community Services

Communications

3. Enhance the delivery of emergency communications through efficient use of technology and partnerships with public and semi-public organizations;
4. Recognize that the telecommunications system is a utility that supports economic development by supporting entrepreneurship, business recruitment and business expansion;
5. Foster formal and informal lines of communication with partner agencies including the State of Oregon, Washington County, Forest Grove School District, Metro, and neighboring cities; and
6. Establish development and design standards incorporating best practices for wireless communications facilities within the City of Forest Grove.

Communications Policies

1. Use technological advances to cost-effectively and efficiently distribute information about City policies and provide quality customer service;
2. Schedule periodic meetings with partner agencies to share information and encourage collaboration on matters of mutual interest including land use policy;
3. Promote governmental transparency through implementation of a robust communications strategy that fosters public participation in policy development;
4. Require the co-location of telecommunication infrastructure through codes and ordinances;
5. Utilize the Communications annex to Forest Grove Emergency Operations Plan as the basis for emergency communications in the City; and
6. Adopt and revise development and design standards for wireless communications facilities reflecting best practices and changes in technology.

Parks

Introduction

This element of the comprehensive plan addresses Statewide Planning Goal 8: Recreational Needs. Goal 8 promotes the recreational needs of current and future residents of the community and visitors.

Forest Grove's moderate climate and location near the Coast Range Mountains provides a setting for some of the best recreational opportunities in Washington County. Many of these recreational opportunities are located within the city. Others are nearby.

Recreational amenities within the city include facilities owned and operated by the City of Forest Grove Parks and Recreation Department, Pacific University, and Oregon Department of Forestry. Recreational opportunities are also provided for use by other organizations such as the Forest Grove School District, Washington County Clean Water Services, local churches and homeowner associations.

The City of Forest Grove Parks and Recreation Department owns and operates the aquatics center as well as ten improved parks. The Parks and Recreation Department also maintains the B Street Trail. Additional information about the facilities is provided below.

The Forest Grove Aquatics Center is located north of the Pacific University campus at Sunset Drive and University Avenue. The aquatics center offers two indoor pools, a spa and a sauna. The center is also home to the Forest Grove Swim Club and the Forest Grove High School swim team and water polo team. In addition, swimming lessons and fitness classes are offered at the facility by the Parks and Recreation Department.

In addition to the Aquatics Center, the Parks and Recreation Department also maintains ten improved parks. The parks are located throughout the city and each offers a variety of recreational opportunities. Below is a description of each park.

Bard Park – Bard Park is located at 2921 22nd Avenue near 22nd Avenue and Kingwood Street. This park is approximately 2.75 acres in area and provides a basketball court, barbeques, picnic tables, playground equipment, shelter and walking path.

Central School Park – The old Central School, located at 18th Avenue and Main Street, includes a small park with play equipment.

Fern Hill Elementary School – Fern Hill Elementary School, located on Heather Street near Mountain View Drive includes open space and a play area.

Forest Glen Park – The lower portion of Forest Glen Park is located at 101 Gales Creek Road near the south end of Lavina Street. This park is approximately 11 acres in area. Basketball courts and trails can be enjoyed at this park. The upper portion of the park is located on Forest

Public Facilities & Community Services

Parks

Gale Drive near Circle Crest Drive. Areas for outdoor grilling, picnic tables and playground equipment can be enjoyed at Upper Forest Glen Park.

Forest Grove High School – The Forest Grove High School includes facilities for football, baseball, soccer and other sports. The facilities are used principally for high school athletic events.

Hazel Sills Park – Hazel Sills Park is located at 1627 Willamina Avenue. Visitors will find barbeques, picnic tables and playground equipment. This park is approximately one-half acre in area.

Harvey Clarke Elementary School - Harvey Clarke Elementary School, located on B Street at 26th Avenue, includes a small play area and open space.

Joseph Gale Park – Joseph Gale Park is located at 3014 18th Avenue near 18th Avenue and Maple Street. The park is adjacent to Joseph Gale School. Joseph Gale Park provides baseball fields, softball fields, barbeques, picnic tables, playground equipment, and restrooms. The park is approximately 3.6 acres in area.

Knox Ridge Park – Knox Ridge Park is located at 2422 Strasburg Drive at the corner of Strasburg and Kalex Lane. This park offers a playground with a play structure and swings. The park has picnic tables. Knox Ridge Park is approximately 0.4 acres in area.

Lincoln Park – Lincoln Park is a jewel in the Forest Grove park system. Located at 2725 Main Street the park is just north of the Pacific University campus. Lincoln Park serves both the broader community and the university. Amenities at Lincoln Park include baseball fields, softball field, barbeques, picnic shelters, picnic tables, playground equipment, restrooms, a BMX course, a skateboard park, track, soccer field, and walking path. Pacific University football, baseball and softball games are played at Lincoln Park.

Neil Armstrong Middle School – Neil Armstrong Middle School, located on Mountain View Drive north of Heather Street includes open space and sports fields.

Rogers Park – Rogers Park is located at 2421 17th Avenue, at the intersection of 18th Avenue and Elm Street. This park is nestled in Forest Grove. Large, mature oak trees are a defining feature of Rogers Park. Barbeques, a picnic shelter, picnic tables, playground, tennis court, portable restroom and a walking path can be found at Rogers Park. Rogers Park is approximately 3.6 acres in area.

Talisman Park – Talisman Park is located at 1210 Willamina Avenue near Magnolia Way and Willamina Avenue. This park offers barbeques, a picnic shelter, picnic tables, playground equipment, and a walking path. Talisman Park is approximately 2.5 acres in area.

Thatcher Park – Thatcher Park is another jewel in the park system. The park is located at 750 NW David Hill Road. This facility includes baseball fields, a picnic shelter, several picnic tables, playground equipment, restrooms, soccer field, softball fields, walking path, and an off-leash dog area. A wooded natural area is also located at Thatcher Park. Thatcher Park is approximately 15.4 acres in area.

B Street Trail – The B Street Trail was constructed on a former railroad right-of-way acquired by the City of Forest Grove. The trail parallels B Street from 16th Avenue to Highway 47. The trail provides a connection across Gales Creek and offers outstanding views of the Coast Range foothills. The trail project was funded through a grant from the Oregon Parks and Recreation Department and a donation of a permanent easement for public access and maintenance across property owned by Metro.

Council Creek Regional Trail – The Forest Grove Transportation System Plan and Metro Regional Transportation Plan include the Council Creek Regional Trail. The Council Creek Regional trail is a multi-jurisdictional project with the aim of connecting Hillsboro, Cornelius, and Forest Grove to Banks and the Vernonia to Banks Trail.

Stites Park – The City of Forest Grove owns property north of 26th Avenue between Sunset Drive and Hawthorne Avenue for a future park. This area is currently undeveloped and will be improved to meet neighborhood needs as the area is developed.

Tom McCall Upper Elementary School – Tom McCall Upper Elementary School is located in western Forest Grove north of Pacific Avenue and west of E Street. The school grounds include open space and sports fields and recreational equipment.

Fern Hill Wetlands – The Fern Hill Wetlands is a regional destination located on Fern Hill Road south of Highway 47. The wetlands are owned and maintained by Clean Water Services – the Washington County sewerage agency. The area around the wetlands is undergoing restoration and improvement. The wetlands area includes trails, viewpoints, shelters and restroom facilities. The area provides habitat for migratory birds and other wildlife. The City of Forest Parks Department maintains the restroom and mows the area around the ponds when needed.

The Fern Hill Wetlands area is being developed into a first class recreational facility with interpretative features, landscaping, and trails. The wetlands will be a showcase for environmental stewardship.

Oregon Department of Forestry Arboretum – The Oregon Department of Forestry operates an arboretum in Forest Grove. The arboretum is located near the ODF district office at 801 Gales Creek Road. The arboretum provides a showcase of Oregon's trees and ecosystem. The site includes a picnic shelter and self-guided interpretative trails.

Scoggins Valley Park – Scoggins Valley Park, including Henry Hagg Lake, is located between Forest Grove and Gaston on Scoggins Valley Road just west of Highway 47. The lake and surrounding facilities are owned by the US Bureau of Reclamation and maintained and operated by Washington County. Fishing, boating, trails, and several picnic shelters are offered for enjoyment.

Tillamook State Forest – The Tillamook State Forest is located west of Forest Grove in the Coast Range Mountains. Historically, the forest provided employment opportunities for local residents in the tree harvesting and wood products industry. Now the forest provides an abundance of recreational opportunities for local residents including hiking, camping, fishing, a variety of equestrian trails and roads for all terrain vehicles.

Planning

Planning and determining areas for future park sites in advance of development can help prevent the lack of facilities serving the needs of the community. The Parks and Recreation Master Plan provides a framework for planning for the recreational needs of the community.

Park Facility Standards

The National Recreation and Parks Association (NRPA) historically published numerical standards for parks and recreational facilities. Although numerical standards are no longer published, NRPA standards provide a point of reference. In general, park standards are used as a tool to determine park deficiencies in contrast to park adequacy. For purposes of determining Forest Grove's standards a comparative study was done of eight cities comparable in size to Forest Grove. These cities include Ashland, McMinnville, Oregon City, Roseburg, Troutdale, Tualatin, West Linn and Woodburn.

Existing Facilities

Facility	Average Standard Per 1,000 persons	City	Other	School	Total Acres
Neighborhood Park, Playlots and School Parks	2 acres	13.50		12.15	25.65
Community Parks	3 acres	22.50		45.84	68.34
Regional Parks	7 acres	0.00		-	0.00
Special Use Parks	No Standard	18.60		-	18.60
Recreational Centers	No Standard	1.00		-	1.00
Open Space/Greenways/Natural Areas	10 acres	167.75	66.70	9.25	243.70

Source: City of Forest Grove, Parks, recreation and Open Space Master Plan (2001)

The table below shows estimated park land needs based on a City population of 28,000 by the Year 2030. The estimated build-out population within the Forest Grove planning area (urban growth boundary) is approximately 33,500 persons.

Park Need

Facility	Recommended Standard Per 1,000 persons	Total Acres Planning Period	Total Acres Build-Out
Neighborhood Park, Playlots and School Parks	1.5	42.0 Total 16.35 Net	50.3 Total 24.7 Net
Community Parks	4.0	112.0 Total 43.7 Net	134.0 Total 65.66 Net
Regional Parks	No Standard	-	-
Special Use Parks	No Standard	-	-
Recreational Centers	No Standard	-	-
Open Space/Greenways/Natural Areas	13.00	364.0 Total 120.3 Net	435.5 Total 191.8 Net

Source: City of Forest Grove, Parks, recreation and Open Space Master Plan (2001)

Neighborhood Parks, Play Lots, Neighborhood School Parks

Based on the 2002 Parks and Recreation Master Plan, the City has 25.65 acres of land in this category. This amounts to 1.28 acres per 1,000 persons as of the year 2010. This is below the preferred standard identified in the Parks and Recreation Master Plan of 1.50 acres per 1,000 persons. Based on the City's projected population of 28,130 persons by 2035 the City will need a total of 42.2 acres of land in this category. Therefore, an additional 16.5 acres of land for neighborhood parks, play lots, or neighborhood school parks is needed.

Community Parks and Community School Parks

Based on the 2002 Parks and Recreation Master Plan, the City has 68.34 acres of land in this category. This amounts to 3.3 acres per 1,000 persons as of the year 2010. This is below the preferred standard identified in the Parks and Recreation Master Plan of 4.0 acres per 1,000 persons. Based on the City's projected population of 28,130 persons by 2035 the City will need a total of 112.5 acres of land in this

category. Therefore, an additional 44.2 acres of land for community parks and community school parks is needed.

Open Space/Natural Resource Areas

Based on the 2002 Parks and Recreation Master Plan, the City has 357.3 acres in this category. This amounts to 17.8 acres per 1,000 persons. The preferred standard identified in the Parks and Recreation Master Plan for this category is 13 acres per person. Based on the City's projected population of 28,130 persons by 2035 the City will need a total of 500.7 acres of land in this category. Therefore, an additional 143 acres of land for open space/natural resource areas is needed.

Regional Parks

The City does not have any regional park facilities within its boundaries. No standards have been set for this type of park.

Special Use Parks

Based on the 2002 Parks and Recreation Master Plan, the City has 18.60 acres in this category. This amounts to 0.93 acres per 1,000 persons. Because of the special nature of this facility (Forest Glen Park) no standards have been set for special use parks.

Recreation Centers

Currently the City owns two recreation centers. This includes the senior center and aquatics center. No standards have been assigned in this area.

Common Recreational Areas

Common recreational areas are encouraged for all subdivisions, and are required for all subdivisions of twenty or more lots. Public park dedication can satisfy this requirement.

Parks Goals

1. Serve all ages and abilities;
2. Provide safe and convenient access to parks for everyone;
3. Create and expand partnerships for recreation facilities and programs;
4. Promote a sense of community and preserve the character of Forest Grove;
5. Contribute to a strong local economy by using park amenities to attract new residents, businesses and tourists; and
6. Provide diversity in facilities and programs

Parks Policies

1. Provide new neighborhood and community parks, additional open space and trails and new recreation facilities to meet the needs of Forest Grove residents as the population grows and resources allow;
2. Construct parks accessible to people with and without disabilities;
3. Connect neighborhoods, schools, parks and greenways with a network of multi-purpose trails that are accessible people with and without disabilities;
4. Continue working with other recreation program and facility providers to increase recreational opportunities to Forest Grove residents through shared resources, partnerships, and joint use agreements;
5. Expand community involvement in maintaining and upgrading parks;
6. Recognize that community and neighborhood parks provide a sense of place for community residents;
7. Encourage the use of parks for community and neighborhood events;
8. Preserve open spaces and green spaces and protect rural surrounding by acquiring land in appropriate locations for passive recreation use while it's available;
9. Promote the development of a downtown community plaza;
10. Make parks attractive destinations for visitors and encourage tourism; and
11. Promote opportunities for relaxing, exercising, exploring and learning through the parks program.

Implementation

- Acquire additional land for community park expansion as resources permit; and
- Seek grant funding for acquisition of park land and improvement to existing park facilities.

Public Facilities & Community Services

Parks

Goals & Policies

Cultural Resources

Introduction

As stated in the City's Vision Statement; Forest Grove is a designation that offers visitors and residents a rich heritage preserved by honoring the city's natural, cultural, and historic treasures while also embracing the future. Forest Grove has embraced this heritage a number of ways. First, the Forest Grove City Council established, and continues to support a Historic Landmarks Commission. Second, city residents and property owners have worked together with the local, state and federal governments to establish three National Register Historic Districts in Forest Grove. In addition, the City of Forest Grove received designation as a "Certified Local Government" from the Oregon State Historic Preservation Office. Many properties have agreed to have their properties designated as historic resources on the Register of Historic Places. Property owners have also voluntarily included historic and significant trees on the City's Register of Significant Trees to ensure preservation. Many of the trees on the Register are community landmarks such as several Giant Sequoia and many Oregon White Oak trees. The Oregon White Oak is the official City tree.

Certified Local Government Program

The City of Forest Grove is designated a historic preservation Certified Local Government (CLG) by the Oregon Park and Recreation Department's State Historic Preservation Office. The CLG designation is a federal program administered in Oregon by the Oregon State Historic Preservation Office. The intent of the program is to promote historic preservation at the local level.

Local governments must meet certain qualifications to become "certified" and thereby qualify to receive matching grants from SHPO. The basic certification requirements include:

- Establish a historic preservation commission and appoint interested and qualified residents to serve. To the extent they are available, at least some of the commission members should meet "professional" qualifications in the disciplines of history, architecture, architectural history, archaeology, or related fields;
- Pass a preservation ordinance that outlines how the local government will address historic preservation issues;
- Agree to participate in updating and expanding the state's historic building inventory program. SHPO takes the lead in this effort by maintaining the master database and the files for the statewide inventory and by providing grants to survey additional properties;
- Agree to review and comment on any National Register of Historic Places nominations of properties within the local government boundaries. Nominations are usually submitted by the property owners themselves or other members of the public. SHPO administers the National Register program in Oregon; and

Public Facilities & Community Services

Cultural Resources

- Affirm that it will fulfill its obligation to enforce existing state preservation laws.

Historic Structures

The City's historic resources provide a sense of place that distinguishes Forest Grove. The historic Main Street continues to be a focal point for community residents and visitors alike. The historic Grand Lodge on Pacific Avenue offers a well needed respite for visitors enjoying all that the Forest Grove area has to offer.

The historic neighborhoods, south of the Forest Grove Town Center, also contribute to the City's sense of place.

Below is a list of historic structures on the local register (for reference only).

Historic Structures

ADDRESS	PROPERTY NAME
1221 BIRCH ST	WILLIAM MCCREEDY HOUSE
1306 BIRCH ST	BURLINGHAM HOUSE
1414 BIRCH ST	TEMPLETON-SCHULTZ HOUSE
1506 CEDAR ST	F.J. MILLER HOUSE
1603 ASH ST	JAMES DEEKS HOUSE
1604 BIRCH ST	THOMAS HINES HOUSE
1619 MAPLE ST	TEMPLETON HOUSE
1621 MAIN ST	LOYAL GRAHAM HOUSE
1623 ASH ST	IVES J. HOAR HOUSE
1631 ASH ST	NICHOLSON-DEEKS HOUSE
1632 MAIN ST	JOHN ABBOTT HOUSE
1651 HAWTHORNE ST	HINMAN HOUSE
1653 BIRCH ST	RASMUSSEN-PRICE HOUSE
1703 MAIN ST	A.G. HOFFMAN HOUSE
1724 21ST AVE	GRIEBELER HOUSE
1736 PACIFIC AVE	EMERSON HOUSE
1803 ASH ST	IRELAND HOUSE
1803 MAIN ST	LOOMIS HOUSE
1804 MAIN ST	HINES HOUSE
1807 ASH ST	W.A. GOODIN HOUSE
1810 PACIFIC AVE	VIA HOUSE
1825 MOUNTAIN VW	PARSONS HOUSE
1839 ASH ST	CHANDLER HOUSE
1904 PACIFIC AVE	CHRISTIAN SCIENCE CHURCH
1923 ELM ST	TUCKER HOUSE
1926 PACIFIC AVE	KNIGHTS OF PYTHIAS BLDG
1933 16TH AVE	MERTZ HOUSE #2
ADDRESS	PROPERTY NAME

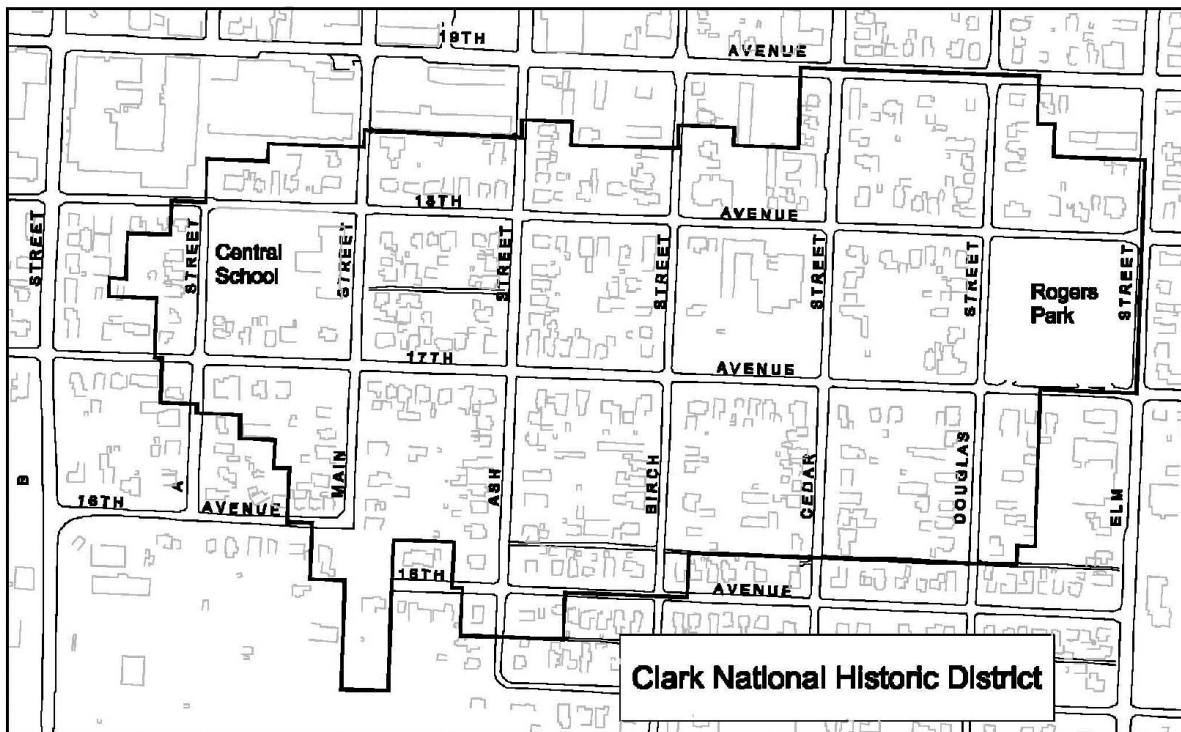
1938 16TH AVE	I.L. SMITH HOUSE
2003 21ST AVE	AMERICAN LEGION BUILDING
2004 MAIN ST	1ST NAT'L BANK OF OREGON BLDG
2008 MAIN ST	HAINES AND BAILEY BLDG
2015 18TH AVE	LAUGHLIN-MARSHALL HOUSE
2016 MAIN ST	NIXON BLDG
2017 21ST AVE	PALACE GARAGE/FG CREAMERY
2018 17TH AVE	SCOTT HOUSE
2018 COLLEGE WAY	GENERAL TELEPHONE BLDG
2019 21ST AVE	OLD ROGER'S CITY LIBRARY
2019 MAIN ST	HOLBROOK LODGE #30
2020 MAIN ST	WOODS AND CAPLES BLDG
2028 PACIFIC AVE	STAR THEATRE/THEATRE IN THE GROVE
2030 MAIN ST	INGLES AND POPE BLDG
2033 18TH AVE	E.A. JEROME HOUSE
2036 MAIN ST	INGLES AND PORTER BLDG
2038 17TH AVE	THORNBURG HOUSE ENGLISH
2038 B ST	MCCURDY HOUSE
2038 MAIN ST	WAGNER BLDG
2039 18TH AVE	AUSTIN-MCNAMER-HUGHES HOUSE
2043 COLLEGE WAY	PACIFIC UNIVERSITY - MARSH HALL
2117 A ST	STEPHEN/PARTHENA BLANK HOUSE
2119 B ST	JEROME PORTER HOUSE
2120 17TH AVE	CHARLES ROE HOUSE
2125 18TH AVE	CONGREGATIONAL CHURCH PARSONAGE
2125 A ST	HARRY CROSLEY HOUSE
2126 17TH AVE	THOMAS ROE HOUSE STEINBACH
2128 15TH AVE	DR. CHARLES HINES HOUSE
2211 A ST	CHARLES WALKER HOUSE
2212 A ST	W.R. TAYLOR HOUSE
2214 PACIFIC AVE	J.W. HUGHES HOUSE (PACIFIC U.)
2225 12TH AVE	I.A. MACRUM HOUSE
2234 B ST	BUXTON HOUSE
2307 18TH AVE	THOMAS HOUSE
2314 19TH AVE	BENJAMIN CORNELIUS HOUSE
2325 A ST	OSCAR BROWN HOUSE #1
2328 18TH AVE	FORTNER HOUSE
2335 A ST	OSCAR BROWN HOUSE #2
2336 GALES WAY	RODLUN HOUSE
2338 17TH AVE	HARRIS-ATKINS HOUSE
240 ELM ST	A.T. SMITH HOUSE
2406 15TH AVE	W.P. SPAULDING HOUSE
2422 15TH AVE	JOHN BAILEY HOUSE
2434 15TH AVE	LAVINA LYON WATTS HOUSE TEEL,
2606 17TH AVE	ROBB-ROBERTS HOUSE
ADDRESS	PROPERTY NAME

2617	17TH AVE	DANIEL BUMP HOUSE
2620	18TH AVE	HOLLIS HOUSE
3081	SUNSET	A.C. BROWN HOUSE

Historic Districts

Clark Historic District

The Clark Historic District was established in 2002. The Clark Historic District is generally bounded by 18th Avenue and 19th Avenue on the north, Elm Street on the east, 16th Avenue on the south and A Street on the west.



The district is named after Reverend Harvey Clark and his wife Emeline who arrived in the Forest Grove area in 1842. At that time the Forest Grove area was known as the West Tualatin Plains.

Land within the Clark Historic District was originally platted into one-acre lots. Lots were purchased and homes were built for local residents working in various occupations, including doctors, lawyers,

merchants, farmers, and railroad employees. This diverse population is reflected in the broad spectrum of architectural styles found within the Clark district.

Historically significant structures in the Clark District include:

- Central School located at 1728 Main Street;
- Smith-Schofield House located at 2011 18th Avenue;
- Congregational Church Parsonage located at 2125 18th Avenue;
- B. Cornelius House located at 2314 19th Avenue;
- C.L. Large House located at 1804 Douglas Street;
- A.C. Hoffman House located at 1703 Main Street;
- Mills House located at 1648 Ash Street;
- I.J. Hoar House located at 1623 Ash Street;
- Thomas Hines House located at 1604 Birch Street; and
- Rasmussen-Price House located at 1653 Birch Street.

Walker-Naylor Historic District

In 2011, the Walker-Naylor district became Forest Grove's third National Historic District. The Walker-Naylor Historic District is generally bounded by 23rd Avenue on the north, 21st Avenue on the south, A Street on the east, C Street on the west and Gales Way on the northwest corner. The map below shows the Walker-Naylor area.

Walker-Naylor Historic District



The Walker-Naylor district includes portions of two early Donation Land Claims. The first was granted to Thomas G. Naylor and the second was granted to Elkanah Walker in 1849. Homes in the district were predominantly built between 1858 and 1959. Very few residences, however, existed in the area until after the Oregon State Legislature granted a charter to the Town of Forest Grove in 1872 and the Walker and Naylor additions to the City were platted in 1873.

From its early history the Walker-Naylor area as desirable place to reside due to close proximity to major transportation routes, the downtown business area and Pacific University. Pacific University strongly influenced the neighborhood's development in the early 1900s with students, their families, and professors seeking out homes in the district.

Historically significant homes in the district include:

- McEldowney House #2 located at 2114 B Street;
- McCurdy House located at 2038 B Street;
- Broderson House located at 2204 A Street;
- Blank House located at 2117 A Street; and
- Crosley House located at 2125 A Street

McCurdy House



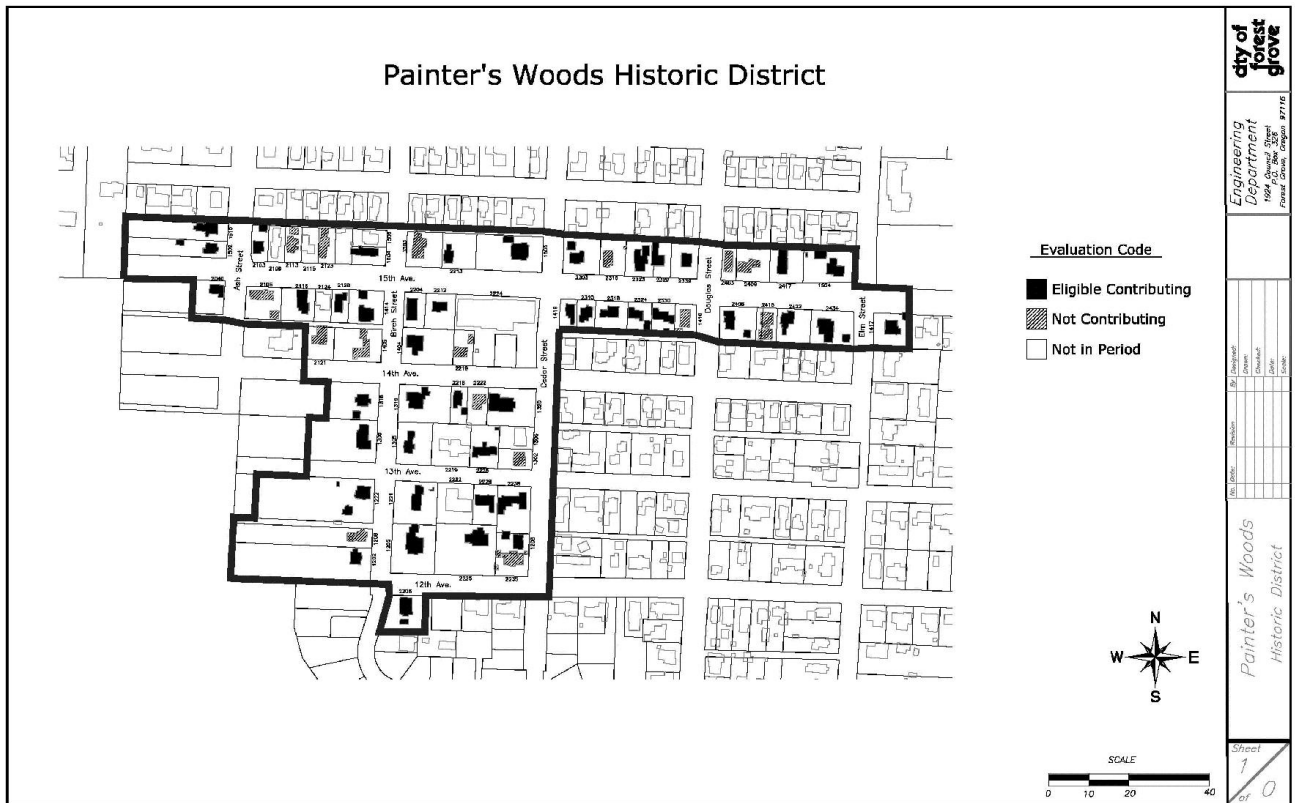
Walker-Naylor Historic District Street Sign



Painters Woods

The Painters Woods historic district was established in 2009. The Painters Woods district is located on land originally purchased by R.M. Painter from Forest Grove co-founder Harvey Clark. The Painters Woods district includes portions of the first subdivisions in Forest Grove including the South Park Addition (1891) and Knobb Hill Addition (1909). The district is a well-preserved example of residential development in Forest Grove between 1880 and 1948.

The Painters Woods district is located 15th and 12th Avenues running north and south, and between Elm and Ash Streets running east and west.



Unlike the Clark Historic district with large lots, the Painters Woods area included smaller lots (5,000 square feet) designed for residential use. This marked the beginning of Forest Grove's transition from a semi-rural community to a more modern suburban community.

The Painters Woods neighborhood includes examples of Queen Anne, Craftsman, Bungalow, Foursquare, Colonial Revival, English Cottage, Vernacular, World War II era cottage and ranch architectures.

Historically significant structures in the Painters Woods district include:

- Wilson House located at 1305 Birch Street;
- Shultz House located at 2204 15th Avenue;
- Abraham House located at 1320 Cedar Street;
- Miller House located at 1506 Cedar Street;
- Marble House located at 1504 Elm Street;
- Buxton House located at 2206 12th Avenue;
- Macrum House located at 2225 12th Avenue;
- World War II era cottage located at 2324 15th Avenue;
- Bailey House located at 2422 15th Avenue; and
- Watts House located at 2434 15th Avenue.

Other Cultural Resources

Pacific University, founded in 1849, is one of the oldest educational institutions in the western United States. Marsh Hall on the Pacific University campus is listed on the City's historic register.

Pacific University maintains an active presence in Hawaii and as a result many students from Hawaii attend classes in Forest Grove. The University provides a bridge between Hawaiian culture and Forest Grove. The University holds an annual luau which provides a cultural link between Forest Grove and Hawaii that is widely anticipated.

The former **Star Theater** building on Pacific Avenue in the Forest Grove Town Center is listed on the City's historic register. The Theater in the Grove which occupies the space conducts many live performances and productions.

Washington County Museum showcases the history of Washington County from its agricultural roots. The museum is operated by the Washington County Historical Society and is located in downtown Hillsboro. The museum hosts exhibits and lectures on variety of topics related to the history of the area.

Rice Museum. The Rice Northwest Museum of Rocks and Minerals is another cultural resource in the area. The museum highlights the geological resources. The main building is also listed on the National Register of Historic Places.

Friends of Historic Forest Grove Old Train Station Museum and Library – The Old Train Station in downtown Forest Grove has been renovated by the Friends of Historic Forest Grove. The station now includes a museum and library for research.

City Advisory Boards and Commissions

The City Council established ten advisory boards and commission to promote public involvement in decision making. These boards and commissions are identified below:

- Budget Committee;
- Planning Commission;
- Economic Development Commission;
- Historic Landmarks Board;
- Community Forestry Commission;
- Sustainability Commission;
- Parks and Recreation Commission;
- Public Safety Advisory Commission;
- Library Commission; and
- Public Arts Commission.

The Boards and Commissions provide a variety of services for the City including:

Historic Landmarks Board which oversees grants for improvements to historic structures and publishes a newsletter related to historic preservation.

Community Forestry Commission undertakes activities that assist the City in meeting National Arbor Day Foundation Tree City USA requirements and tree planting activities; the Public Arts Commission which allocates funding for public art efforts; the Economic Development Commission which develops marketing materials for business recruitment activities; Library Commission which promotes community outreach efforts related to library activities.

Planning Commission which reviews and approves certain development proposals and makes recommendation on land use policies.

Library Commission which undertakes public outreach efforts related to Library programs and services.

Economic Development Commission which develops and reviews marketing materials related to business expansion and recruitment.

Parks and Recreation Commission which promotes park and recreation programs.

Public Arts Commission which fosters relationships between organizations and individuals on matters pertaining to art and culture. The Commission supports fund raising efforts and oversees the acquisition of public art.

Sustainability Commission which helps the City build community connections with the aim of implementing strategies related to community sustainability efforts.

Budget Committee which reviews and makes recommendations to the City Council on the annual budget.

Parks and Recreation Commission which promotes public recreation programs that fosters learning and improves public health.

Public Safety Advisory Commission which promotes safe and livable neighborhoods and builds awareness on service levels and budgetary needs related to police and fire protection.

Library Commission which conducts community outreach on the variety of services and programs offered by the Forest Grove Library.

Chapter 8

Education and School Facilities

Purpose

This element of the comprehensive plan highlights public and private educational opportunities in and around Forest Grove. This element also addresses the requirements of Oregon Revised Statutes Chapter 195.110 related to long term school facility planning.

Introduction

Forest Grove's history is tied to education. The City of Forest Grove grew-up around the Tualatin Academy; the first educational institution chartered by the Oregon Territorial Legislature in 1849. The Tualatin Academy, was a secondary school that became what is now Pacific University. The mission of the Tualatin Academy continues today through a partnership between the Forest Grove School District and Pacific University. This partnership provides opportunities for high school students interested in taking classes at the university level.

The Forest Grove School District is the primary provider of public instruction in Forest Grove for grades kindergarten through high school. The Northwest Regional Education Service District supplements programs offered by the Forest Grove School District including services for special needs students.

Forest Grove is also located within the Portland Community College district boundary. Based on enrollment, Portland Community College is the largest post-secondary public provider of education in Oregon. Classes are primarily offered at the PCC Rock Creek and Sylvania campuses and Hillsboro Center. Portland Community College offers associate degree programs as well as continuing education classes.

Pacific University is the most prominent educational institution in Forest Grove. Pacific University is a private liberal arts and graduate teaching and health professions university. Undergraduate programs are taught on the Forest Grove campus with most graduate classes taking place in Hillsboro. Pacific University is well known for their optometry and psychology degree programs.

Other providers of education include a variety of private vocational colleges in Hillsboro and Portland.

Education & School Facilities

Demographics

Characteristics of the population help to inform school needs both now and in the future. The information that follows provides a broad overview of general population characteristics.

General Population Characteristics

The table below shows general population characteristics for Forest Grove residents. The total population of Forest Grove in 2010 is approximately 21,080 persons. The median age of Forest Grove residents is 32.7 years.

Approximately 79% of Forest Grove residents are White. Persons identifying themselves as some other race is the next largest category at 12.5% of residents. This category is followed by persons of two or more races at 3.9%. Asian, Native American and the African American population makes-up approximately 5% of Forest Grove residents.

Approximately 23% of the Forest Grove population identifies themselves as being of Hispanic Origin. It's important to note that Hispanic Origin is not a racial category as defined by the US Census Bureau. Persons identifying themselves as being of Hispanic Origin may also be counted under one or more racial category.

Forest Grove General Population Characteristics

Total Population	21,083
Median Age	32.7
Population below age 15	22.0%
Population above age 65	12.8%
White	78.8
Other	12.5%
Two or More Races	3.9%
Asian	2.6%
Native American	1.1%
African American	0.8%
Hispanic Origin	23.1%

Source: US Census Bureau, American Community Survey

Cornelius General Population Characteristics

Total Population	11,869
Median Age	30.4
Population below age 15	31.8%
Population above age 65	7.3%
White	64.0%
Other	27.2%
Two or More Races	4.0%
Asian	2.2%
Native American	1.3%
African American	1.2%
Hispanic Origin	50.1%

Source: US Census Bureau, American Community Survey

As the tables above show, Forest Grove has an older population than Cornelius. The median age of a Forest Grove resident is 32.7 years of age. In contrast, the median age of a Cornelius resident is 30.4 years.

Cornelius is a more diverse city than Forest Grove. Approximately 50% of the population in Cornelius identifies themselves as being of Hispanic origin. This compares to Forest Grove where 23% of the population is of Hispanic origin.

Households also tend to be larger in Cornelius than households in Forest Grove. According to the US Census Bureau, the average household size in Cornelius is 3.51 persons per household. The average household size on Forest Grove is approximately 2.77 persons per household. This is a significant difference.

School Age Population

The tables below show the current and future distribution of school age population in Forest Grove for the years 2010 and 2030. The 2010 population estimates are from the US Census Bureau's American Community Survey. For planning purposes the City estimated population by school age group for the year 2030. The City's estimate is based on long-term household and population projections, prepared by Metro, for the year 2030. Population for the year 2030 was assigned to school age groups based on the current (year 2010) distribution of population by age group. The City recognizes that this methodology is not as accurate as performing a cohort survival analysis. However, this technique is the best way to assess potential population by age group given available resources.

Estimated School Age Population for Forest Grove (2010)

Age Group	Population	Percent
5 to 9 Years	1,637	7.9%
10 to 14 Years	1,439	7.0%
15 to 19 Years	1,635	7.9%
20 to 24 Years	1,730	8.4%
Total	6,441	31.2%

Source: US Census Bureau, American Community Survey 2010

Estimated School Age Population for Cornelius (2010)

Age Group	Population	Percent
5 to 9 Years	1,149	9.7%
10 to 14 Years	1,053	8.9%
15 to 19 Years	1,018	8.6%
20 to 24 Years	787	6.6%
Total	4,007	33.8%

Source: City of Forest Grove based on Metro data

Projected School Age Population for Forest Grove (2030)

Age Group	Population	Percent
5 to 9 Years	2,265	7.9%
10 to 14 Years	2,007	7.0%
15 to 19 Years	2,265	7.9%
20 to 24 Years	2,409	8.4%
Total	8,946	31.2%

Source: City of Forest Grove based on Metro data

Projected School Age Population for Cornelius (2030)

Age Group	Population	Percent
5 to 9 Years	1,989	9.7%
10 to 14 Years	1,824	8.9%
15 to 19 Years	1,763	8.6%
20 to 24 Years	1,359	6.6%
Total	6,935	33.8%

Source: City of Forest Grove based on Metro data

Difference Between 2010 and 2030 for Forest Grove

Age Group	Population
5 to 9 Years	628
10 to 14 Years	568
15 to 19 Years	630
20 to 24 Years	679
Total	2,505

Source: US Census Bureau, American Community Survey

The chart below, prepared by the Forest Grove School District, shows the number of students enrolled or projected in various grade levels on an annual basis over a six school year period. The chart shows how “age cohorts” progress through grade levels.

October

Year	Kinder	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total
2006-2007	462	448	479	465	442	475	449	478	449	524	488	491	495	6,145
2007-2008	465	460	445	456	448	409	473	446	460	480	522	515	452	6,031
2008-2009	446	473	465	453	462	429	413	440	439	489	482	555	435	5,981
2009-2010	429	437	475	458	453	456	427	428	442	500	488	501	480	5,974
2010-2011	428	436	429	471	460	445	462	439	439	532	482	477	486	5,986
2011-2012	433	430	428	403	451	445	442	450	428	478	496	453	484	5,821
vs 10-11 Cohort	5	2	(8)	(26)	(20)	(15)	(3)	(12)	(11)	39	(36)	(29)	7	(107)
vs 10-11 Cohort	1.17%	0.47%	-1.83%	-6.06%	-4.25%	-3.26%	-0.67%	-2.60%	-2.51%	8.88%	-6.77%	-6.02%	1.47%	
vs 07-08	(29)	(18)	(51)	(62)	9	(30)	(7)	(28)	(21)	(46)	8	(38)	(11)	(324)
Cohort Project.	433	435	422	402	386	436	442	431	439	466	446	466	460	5,663

Source: Forest Grove School District

The table below shows estimated school enrollment for residents over the age of 3 in Forest Grove. The data is from the American Community Survey prepared by the US Census Bureau. Elementary school enrollment represents the largest percentage of school enrollment in Forest Grove. Elementary school enrollment is followed by college enrollment at 33%. This is expected with the presence of Pacific University in Forest Grove.

Grade	Forest Grove Population	Forest Grove Percent	Cornelius Population	Cornelius Percent
Nursery/Pre-School	211	3.4%	249	7.1%
Kindergarten	257	4.1%	120	3.4%
Elementary (Grades 1 – 8)	2,585	41.3%	1,976	56.2%
High School (Grades 9 -12)	1,131	18.1%	677	19.3%
College or Graduate School	2,073	33.1%	494	14.1%
Total	6,257	100%	3,516	100.0%

Source: US Census Bureau, American Community Survey 2010

Educational Attainment (Population 25+)

The table below shows educational attainment for persons age 25 years and older living in Forest Grove. Approximately one-quarter of Forest Grove residents 25 years of age and older have some type of college degree. Another quarter of the population attended some college but did not receive a degree. Approximately 10% of the Forest Grove population older than 25 have less than a 9th grade education. Another 9% attended high school but did not receive a diploma. Therefore, almost one-fifth of the adult population, 2,250 persons over 25 in Forest Grove, has not graduated from high school.

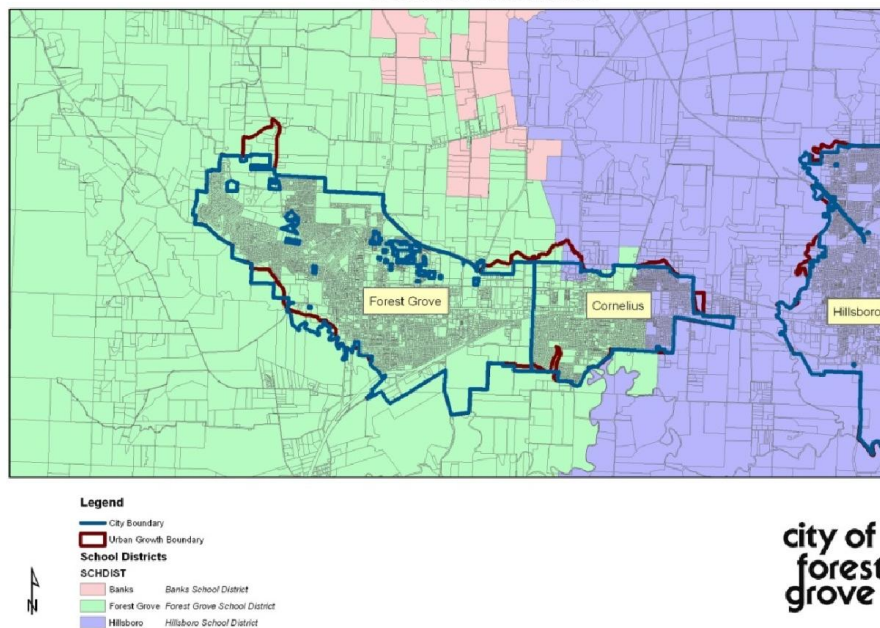
Grade	Forest Grove Population	Forest Grove Percent	Cornelius Population	Cornelius Percent
Less than 9 th	1,160	9.5%	1,586	24.0%
9 th to 12 th (No Diploma)	1,088	8.9%	516	7.8%
High School Graduate	3,353	27.4%	1,707	25.8%
Some College, No Degree	3,261	26.6%	1,517	22.9%
Associate's Degree	782	6.4%	484	7.3%
Bachelor's Degree	1,679	13.7%	582	8.8%
Graduate or Professional Degree	918	7.5%	225	3.4%
Total	12,241	100%	6,617	100%

Source: US Census Bureau, American Community Survey 2010

Forest Grove School District

The Forest Grove School District serves a large portion of western Washington County including the communities of Forest Grove, portion of Cornelius, Gales Creek, Glenwood, and Dilley. The Forest Grove School District boundary is shown below with Forest Grove and Cornelius at the eastern edge of the boundary. The western boundary is the Washington/Tillamook County line.

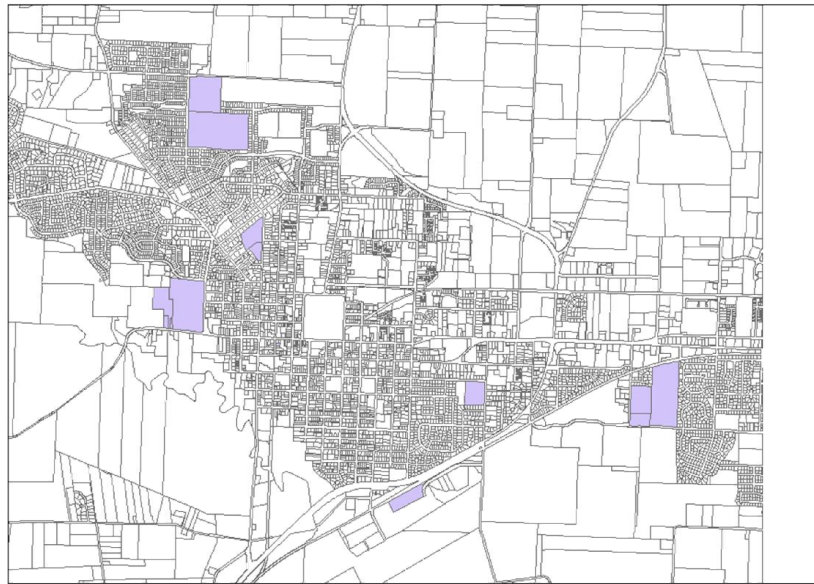
**Forest Grove Area
School Districts**



As of 2009, the District has ten school buildings and two support facilities. This includes seven elementary schools, one upper elementary school, one middle school and one high school. The two support facilities include the District's central office on Main Street and the Taylor Way support annex off of Fern Hill Road south of Highway 47.

The map below shows the locations of existing school locations in Forest Grove.

School Facilities in Forest Grove



The Forest Grove school district serves a diverse population. Approximately 2,800 students are White making-up 49% of total school enrollment. About 2,850 students are identified as being of Hispanic origin. Hispanic students comprise about 48% of the student population. The school district estimates that nearly 1,340 students are English language learners (approximately 23% of the student population). Approximately 955 students, or 16% of enrollment, come from migrant farm worker families.

The diversity of the student population is an asset enhancing learning opportunities. An example of this is the district's Two Way Immersion Program. Students participating in the program spend half their time learning English and half their time learning Spanish. The goal of the program is to create students who are literate in both languages. The program, which started in 1996, includes about 300 students, including native Spanish speakers, Native English speakers and students who have grown-up in bilingual households.

Growth in the Latino population is an important factor behind Forest Grove's enrollment growth prior to 2008. Historically, Hispanic enrollment increased more rapidly than other enrollments at the national, state and district levels. This could be attributable to higher birth rates and a wave of immigration from Latin America prior to the 2008 economic downturn. Between 2000 and 2005, Hispanic enrollment climbed by over 54 percent. During 2006, Hispanic students accounted for over 38 percent of the total student enrollment in the Forest Grove School District. This percentage has increased to 48 percent based on current statistics.

The chart below shows the breakdown of enrollment by grade level for the 2010 school year. As of 2010 there were approximately 1,960 high school students, 880 middle school students and 3,100 elementary school students.

Forest Grove School District Enrollment (2010) Breakdown by Grade Level

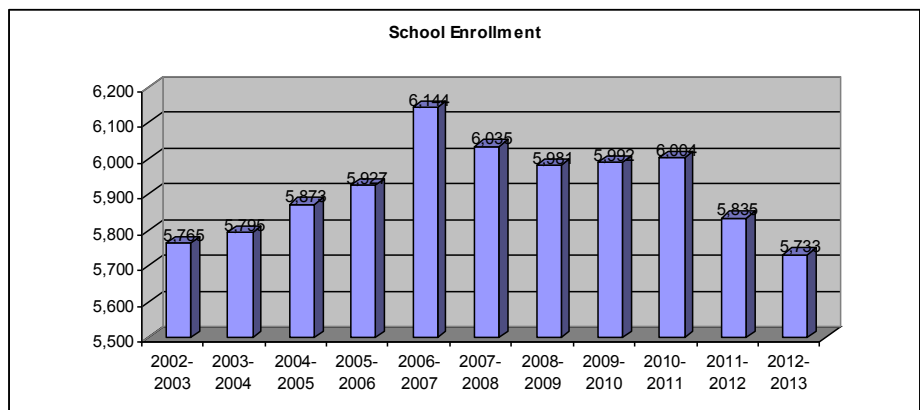
Grade Level	Students
Kindergarten – Fourth Grade	2,074
Grades 5 and 6	888
Grades 7 and 8	877
Grades 9 through 12	1,963
Charter School	144
Total Enrollment	5,946

Source: Forest Grove School District

The economic downturn that began in 2008 had a significant impact on school enrollment. The chart below shows how annual school enrollment has changed since 2002. Projections for the 2012-2013 indicate that school enrollment could fall back to near 2002-2003 levels.

Forest Grove School District Enrollment

2002-2003	5,765
2003-2004	5,795
2004-2005	5,873
2005-2006	5,927
2006-2007	6,144
2007-2008	6,035
2008-2009	5,981
2009-2010	5,992
2010-2011	6,004
2011-2012	5,835
2012-2013	5,733



Source: Forest Grove School District

A number of factors may contribute to the decline in school enrollment. One possible factor is the loss of employment, especially construction jobs in the region, since the start of the economic downturn. Immigration has slowed due to fewer local job opportunities. As a result, some families have returned to their native countries.

Another factor contributing to the decline in school enrollment is the large number of housing foreclosures impacting the area. The foreclosure process is disruptive and may force some families to relocate to other areas to find shelter with family or friends.

Changes in state law could also affect enrollment in the short-term. State law allowing for “open enrollment” may reduce the number of students attending class in the Forest Grove School District. Data from the School District suggests as many as 53 students may transfer to the Forest Grove School District from other districts. This number, however, will be more than offset by as many as 121 students transferring from Forest Grove to other school districts.

Given recent events, when will school enrollment likely return to the levels experienced in 2006-2007? It is unlikely that pre-recession housing and population growth will return for the foreseeable future. Housing preferences are changing, fuel costs continue to rise and budgets at all levels of government continue to be strained. Although prospects for robust growth appear weak, Forest Grove is well positioned to capture a larger share of the regional growth that does occur. Forest Grove has an adequate supply of vacant and buildable land for new single family dwellings, competitive water and electrical utility rates and proximity to job opportunities in western-Washington County. The supply of single family residential land is especially important given supply constraints expected to occur elsewhere in the Portland region. These trends indicate that enrollment in the Forest Grove School District will rebound and surpass pre-recession levels during the next decade. Expectations for long term enrollment growth are addressed more fully below following the discussion of school facilities.

Overview of Existing School Facilities

The Forest Grove School District has ten school facilities, two support facilities and a health center. Schools include one high school, one middle school, an upper elementary school, and eight elementary schools. The two support facilities include the central office and Taylor Way support annex. The district also operates a health center, located at the High School, for students and faculty.

Additional information about individual school district facilities follows.

Support Facilities

Central Office The Central Office facility is a one-story building, with a finished basement and a mechanical mezzanine. The building, located at 1728 Main Street in Forest Grove, was constructed in 1930-31 and was originally used as an elementary school. Due to non-conformance with seismic codes, student occupancy is no longer allowed. Major renovation of the building began in 1997. The building is approximately 271,548 square feet and is constructed of brick and concrete. The site is approximately 2.80 acres in area.

Taylor Way Support Annex – The Taylor Way Support Annex is located in near Fern Hill Road and Taylor Way in Forest Grove. The annex includes the district warehouse, maintenance area, bus barn and some office areas. The Annex also houses the Community Alternative Learning Center (CALC). The facility is two stories and was constructed in 1996 with a remodel in 2002. The facility is approximately 70,000 square feet. The site area is approximately 7.5 acres. The building includes tilt-up construction with a wood roof and a metal framing with wood roof.

Health Center The Forest Grove School Based Health Center, located at Forest Grove High School, is operated by the Virginia Garcia Memorial Health Center. Services are available to students and faculty of the Forest Grove, Banks, and Gaston School Districts. Services include immunizations, routine physical exams, treatment of minor illness and injury, vision and blood pressure screening, individual and family counseling. The health center accepts most private insurance and offers a sliding fee scale based on family income.

Elementary Schools

Harvey Clarke Elementary School Harvey Clarke Elementary School is a one story facility constructed in 1949 with an optimum capacity for 450 students and a maximum capacity of 511 students. Enrollment during the 2009-2010 school year at this facility is 490 students.

Harvey Clarke Elementary School serves most of northwest Forest Grove. This is the fastest growing part of the city with the greatest amount of developable residential land. Office additions to the building were completed in 1998. The building has a total area of 52,064 square feet and is of wood frame construction. The school site is 10.88 acres in area.

The following items were completed at Harvey Clarke Elementary School with bond funding between 2000 and 2005:

- Re-roof of areas that were originally installed before 1996;
- Replacement of glass block in gymnasium;
- Replacement of heating system;
- Replacement of domestic water lines;
- Replacement of storm damaged sun screening;
- Replacement of covered play structure;
- Replacement of asbestos floor tile; and
- Abatement of asbestos pipe insulation.

Additional projects will be completed as part of the 2010 bond. These projects include classroom and student space, deferred maintenance, energy efficiency improvements, safety and security improvements and technological enhancements. Total cost for these projects is estimated at \$3.88 million (2010).

Joseph Gale Elementary Enrollment at Joseph Gale Elementary is approximately 318 students based on 2009-2010 data. The 2010 bond includes construction of a new Joseph Gale Elementary School. The new building will have a capacity of 500 students. This compares with the previous optimum capacity of 364 students and maximum capacity of 412 students. The new school will be 18,000 square feet larger than the old school building. Construction will meet a LEED silver or better rating. Sustainability initiatives include installing solar panels. The estimated cost of the project is \$20 million. The school site is approximately 11.44 acres in area.

Tom McCall Upper Elementary School Enrollment at Tom McCall Upper Elementary School is approximately 960 students. Optimum capacity is 800 students with a maximum capacity of 960 students.

Tom McCall Upper Elementary School includes two two-story buildings constructed in 2003. Tom McCall West has a capacity of 500 students. Tom McCall East has a capacity of 300, but is designed for expansion to accommodate an additional 200 students. The two buildings have a combined area of 72,000 square feet. The school site land area is 37.36 acres.

Completed bond work at the facility includes new facilities and renovation of the existing gymnasium at Tom McCall East. Planned improvements as part of the 2010 bond include installation of operable windows, lighting and HVAC upgrades, security and safety improvements and technological enhancements. Costs for these improvements are estimated at \$185,000.

Currently the Tom McCall facility is in excellent condition. The chart below summarizes improvements made:

- Expansion of Tom McCall East to accommodate 500 students;
- Remodel mezzanines for access at gymnasium;
- Remodel wall of library loft; and
- Track repairs.

Fern Hill Elementary School Fern Hill Elementary school located in Southeast Forest Grove currently has 310 students in kindergarten through fourth grade. The two-story facility was constructed in 2003 and is designed to allow expansion to house a total of 500 students. The building has a total area of 49,000

square feet. The school site is approximately 10 acres in area. The 2010 bond includes several planned upgrades to the facility including roof flashing installation, HVAC control upgrades, safety and security improvements and technology enhancements.

The Forest Grove School District has two elementary schools in Cornelius: Echo Shaw and Cornelius Elementary. Other elementary school facilities include Dilley Elementary and Gales Creek Elementary School.

Cornelius Elementary School has an optimum capacity of 364 students and a maximum capacity of 412 students. Current enrollment is approximately 419 students.

Echo Shaw Elementary School has an optimum capacity of 453 students and a maximum capacity of 513 students. Current enrollment is 465 students.

Dilley Elementary School serves the area south of Forest Grove. Dilley Elementary has an optimum capacity of 228 students and a maximum capacity of 258 students. Current enrollment is 290 students.

Gales Creek Elementary School has an optimum capacity of 114 students and maximum capacity of 129 students. Gales Creek Elementary is the smallest school facility in the school district. The future of Gales Creek Elementary School is uncertain.

Middle School

Neil Armstrong Middle School Neil Armstrong Middle School is mostly a one-story building with an additional upper floor gymnasium area. This school has an optimum capacity of 1,725 students and a maximum capacity of 2,070 students. Current enrollment is approximately 957 students.

Neil Armstrong Middle School was constructed in 1970 with a partial remodel in 1996. A 9,000 square foot addition to the building in occurred in 2003. This school has approximately 946 students in seventh and eighth grades. The building is approximately 114,000 square feet and is comprised of predominately tilt-up construction. The site area is 42.92 acres.

The following items were completed at Neil Armstrong Middle School with bond funding between 2000 and 2005. These improvements include:

- Code upgrades;
- Addition of seven classrooms;
- Replacement of folding partitions with solid walls;
- Re-roofing of the main building;
- Barometric relief vents;
- Boiler replacement with pumps;
- HVAC direct digital control;
- Domestic water line flow expansion and water line replacement;
- New ceiling including installation of flame barrier; and
- Student locker replacement.

Improvements planned as part of the 2010 bond include classroom and student space additions, ADA access to upper gymnasium, asbestos tile abatement and new flooring, track resurfacing, kitchen modifications, new bleachers to meet code requirements, lighting upgrades, safety and security enhancements, and technology improvements. The total estimated cost for these improvements is approximately \$2.6 million.

High School

Forest Grove High School The Forest Grove High School has an optimum capacity of 1,675 students and a maximum capacity of 2,079 students. Current high school enrollment is approximately 1,675 students. The building was completed in 1983 with approximately 15 additional classrooms added in 1997/1998. The building is approximately a combination of tilt-up concrete, poured concrete and steel frame construction. The building is approximately 271,571 square feet including 184,841 square feet on the first floor and 86,730 square feet on the second floor. The site area is approximately 37.01 acres.

The following items were completed at the Forest Grove High School with bond funding between 2000 and 2005:

- Welding station and electrical modification in the shop;
- Additional heat in counseling area;
- Electrical upgrade for parking lot lighting;
- Building HVAC upgrades;
- Chiller/condenser retrofit;
- Computer lab cooling;
- Extension of direct digital control;
- Stadium handrail and bleacher repairs;
- Parking lot seal coat;
- Tennis court resurface; and
- Improvements to athletic fields.

Projects planned as part of the 2010 bond include:

- Classroom and student space additions;
- Completion of deferred maintenance items;
- Energy efficiency enhancements;
- Safety and security improvements; and
- Technology upgrades.

The estimated cost for the projects is approximately \$36 million. Other bondable projects identified include stadium bleacher improvements, tennis court maintenance, construction of two additional fields on 20 acres adjacent to the school and stadium field lighting. These projects amount to an additional \$2.9 million in potential cost.

School Capacity

The following section addresses school capacity for various facilities in the Forest Grove School District. The optimum capacity is based on a class size factor for various grade levels. The Forest Grove School District uses factors to determine optimum and maximum school capacity. Factors are based on grade level and optimum or maximum number of students.

School Capacity

Grade Level	Optimum School Capacity Factor (students)	Maximum School Capacity Factor (students)
Kindergarten	20	23
Grades 1 and 2	22	25
Grade 3	25	28
Grade 4	25	28
Grade 5+	30	30

Source: Forest Grove School District

The table below shows the optimum and maximum capacity for each school in the district. Data is also provided for current enrollment. The estimated available capacity is based on comparing current enrollment with maximum capacity.

School Capacity Analysis

School	Optimum Capacity	Maximum Capacity	Enrollment (2009-2010)	Estimated Available Capacity
Fern Hill Elementary	317	359	315	44
Harvey Clarke Elementary	451	511	490	21
Joseph Gale Elementary	364	412	318	94
Tom McCall Upper Elementary	800	960	961	(1)
Neil Armstrong Middle	1,725	2,070	957	1,113
Forest Grove High School	1,675	2,079	1,675	404
Cornelius Elementary	364	412	419	(7)
Dilley Elementary	228	258	290	(32)
Echo Shaw Elementary	453	513	465	48
Gales Creek Elementary	114	129	115	14
Total	5,691	6,743	6,005	738

Source: Forest Grove School District

Land Need and Determination of Adequate Supply

ORS Chapter 195 requires that comprehensive plans include an analysis of the land required for school needs. The determination of land need requires an assessment of household and population growth. Household growth projections are used to determine the number of potential students resulting from new development in the community. A summary of household and population growth for Forest Grove is provided below. The household estimates are from Metro's growth projections developed in concert with cities and counties in the Portland region. A factor of 2.71 persons per household was used to estimate population for Forest Grove. This factor comes from the US Census Bureau's American Community Survey. Based on the household and population estimates school enrollment could increase by an additional 1,671 students between the year 2010 and 2030 due to new development in Forest Grove. Total Forest Grove School District enrollment from Forest Grove households will approach 6,170 students by the year 2030.

Forest Grove Household and Population Projection

	Households	Population
2010 Estimate	7,492	20,303
2025 Estimate	9,813	26,593
Difference 2025 – 2010	2,321	6,289
2030 Estimate	10,277	28,677
Difference 2030 – 2010	2,785	7,547

Source: City of Forest Grove, Planning Division and Metro

Population growth in Cornelius also impacts school enrollment. Approximately one-half of Cornelius is within the Forest Grove School District boundary. The other half of Cornelius is within the Hillsboro School District. A factor of 3.51 persons per household was used to estimate population in Cornelius. This number is based on American Community Survey data and reflects the larger household sizes in Cornelius. Based on the household and population estimates below, enrollment in the Forest Grove School District could increase by an additional 1,722 students due to future population growth in Cornelius. Therefore, total student enrollment in the Forest Grove School District could increase to 7,888 students at the end of the twenty-year planning period.

Cornelius Household and Population Projection

	Households	Population
2010 Estimate	3,518	10,544
2025 Estimate	5,369	16,107
Difference 2025 – 2010	1,851	5,553
2030 Estimate	5,738	17,214
Difference 2030 – 2010	2,220	6,660

Source: City of Forest Grove, Planning Division and Metro

Enrollment projections serve as the basis for estimating additional building area and land needs. The analysis of building needs, presented below, is based on estimates of building area required per additional student from the Beaverton School District. Land needs are based on prototypical site designs for various school types.

Estimated School Needs

School Type	Additional Students	Additional School Need	Additional Building Need (Square Feet)	Additional Land Need (Acres)
Elementary	779	1	65,000	13
Middle	341	< 1	44,300	-
High	380	< 1	53,200	-
Total	1,500			

Source: City of Forest Grove Planning Division

Based on the information presented above, one additional elementary school may be needed by the year 2030. This translates into a land need of approximately 13 acres during the next twenty years. It may be

possible to accommodate other school needs through expansion of existing facilities, installation of portable classrooms and reconfiguring existing space.

School Siting

The Oregon School Siting Handbook (Planning for Schools and Livable Communities, 2005) provides guidelines for selection of school sites. The Handbook recommends selecting school sites taking a variety of factors into. One such factor is transportation cost. As the Handbook explains, a well sited school gives school children more transportation choice including walking and bicycling promoting physical health and well-being. In addition, school locations that provide transportation options may reduce out-of-pocket costs to parents, the District for providing transportation and may reduce traffic impacting neighborhoods.

In addition to transportation choices, the Handbook recognizes that schools should serve as community focal points and neighborhood anchors:

“The school’s role as a community focal point is still seen today. Parents meet each other while taking their children to school. Neighbors bump into each other while walking their dogs on the school grounds. Grandparents attend the school play and recognize a friend from long ago. Through these informal interactions, social networks are formed that help people provide a stronger support system for children and feel more connected to their community.”

In other words, schools as neighborhood anchors promote a sustainable community that has lasting value. “A well sited school can turn a subdivision into a neighborhood.” –The School Siting Handbook (2005), page 24.

Population projections by school age group (FGSD uses 0.6 students per household). This needs to be broken down further into school type.

The State of Oregon does not establish standards for adequate school sites. School districts, however, may adopt their own standards. The Council of Educational Facility Planners International (CEFPI) is a noted source for information about school facilities. The 2004 edition of the CEFPI updates prior recommendations for school standards. The standards now account for variations in educational programs or the difficulties in obtaining sizeable tracts of land in densely population areas. CEFPI now recommends calculating the amount of space needed based on program criteria.

School Site Characteristics

As part of the school facility planning process, state law requires that cities and counties identify desirable school sites in coordination with a school district subject to ORS 195.110. To assist with effort school may adopt standards for what constitutes a desirable school site. Such standards typically address needed land area, facility features and target enrollment by school type.

The Beaverton School district adopted guidelines for school site selection. These guidelines are presented below:

Elementary School Site

Site Size Range	7 to 10 acres
Significant Site Features	Covered Play Area Soft play area with play equipment Soccer field size grass area Room for portable classrooms
Typical Enrollment	725 students

Middle School

Site Size Range	15 to 20 acres
Significant Site Features	Covered Play Area – 4 basketball courts Soccer field(s) Football field(s) 4 – 6 tennis courts Baseball field(s) Softball field(s) Room for portable classrooms
Typical Enrollment	1,100 students

High School

Site Size Range	35 to 40 acres
Significant Site Features	Football Stadium Track and Field Area with bleachers baseball fields softball fields 4 -6 outdoor basketball courts Football practice area Marching band practice area 8 – 12 tennis courts Batting cages Field house and concessions Portable classrooms
Typical Enrollment	2,200 students

Source: Beaverton School District

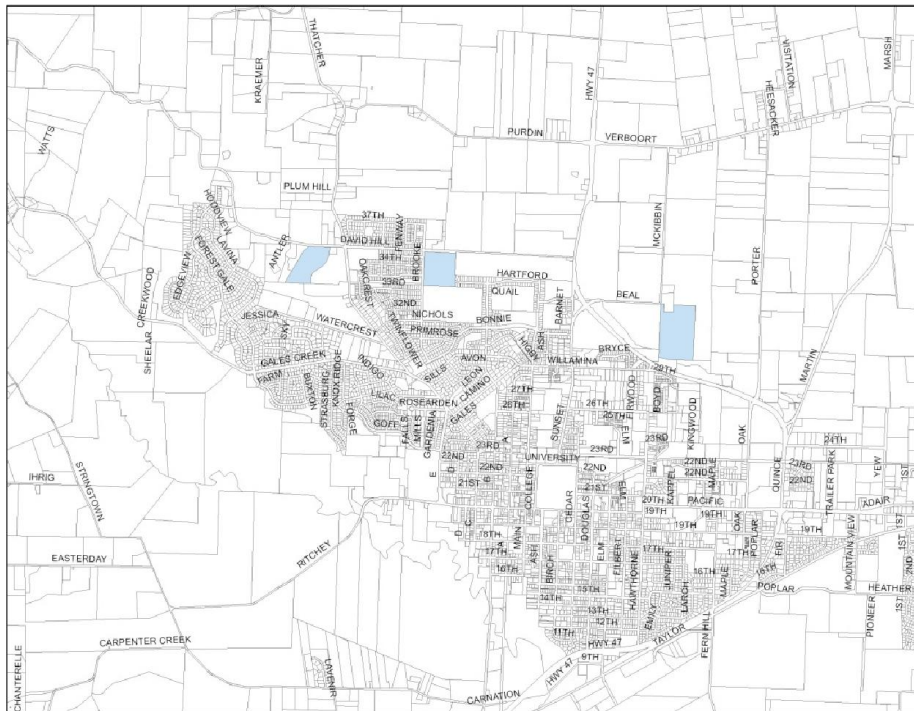
Alternatives to acquisition of additional land for school needs include assessing new ways to meet school related and/or recreational activities on-site, off-site or in other programmatic ways; assess existing school sites to determine optimal capacity; opportunities for joint partnerships with local agencies; and updated school designs.

Efficiency measure may include portable classrooms; multi-story buildings (already planned for Joseph Gale School); shared use, and shared parking.

Future Development Sites

The school district owns three sites for future development. The sites include property adjacent to the Forest Grove High School, property south of David Hill Road adjacent to Thatcher Park and property on McKibbon Road north of Highway 47. The 2006 Master Plan Report recommended that the District consider additional land acquisitions to fulfill future school facility requirements inside Cornelius and Forest Grove based on the existing urban growth boundary.

Future School Sites



Source: Forest Grove School District, Washington County Assessor Records

Forest Grove High School Site – The District owns approximately 20 acres adjacent to the Forest Grove High School. The 2006 Master Plan recommended that the District reserve this parcel of land to accommodate future growth of facilities, parking and athletic fields for the high school. This site is being improved as part of improvements to the high school area as part of the 2010 bond.

David Hill Road Site – The District owns 17 acres of land south of David Hill Road west of Thatcher Park. The Forest Grove School District Board determined that this particular site is not very conducive for a school given the steep grade. The land is currently for sale.

McKibbon Road Site – The District owns approximately 30 acres on McKibbon Road off of Highway 47 north of the Forest Grove city limits. The site is located outside of the urban growth boundary. This area has been designated as Rural Reserve by Washington County given the high quality agricultural land in this area. Under state law land designated as urban reserve is the priority for meeting development needs for a twenty- to fifty-year period after designation. This means the McKibbon Road area will not be developed unless state law is changed. The Master Plan recommends using a portion of the property for the Forest Grove High School Agriculture program.

Constructing a school on land beyond the urban growth boundary is a complicated and costly process. State law restricts a city's ability to provide urban services beyond the urban growth boundary. Schools must be built within urban growth boundaries to receive city services. If a school district decides to construct a school beyond the urban growth boundary the district must provide and pay for its own infrastructure. Oregon Revised Statutes Chapter 197.732 requires an application for an exception to the state land use planning goals to construct a school within three miles of an urban growth boundary.

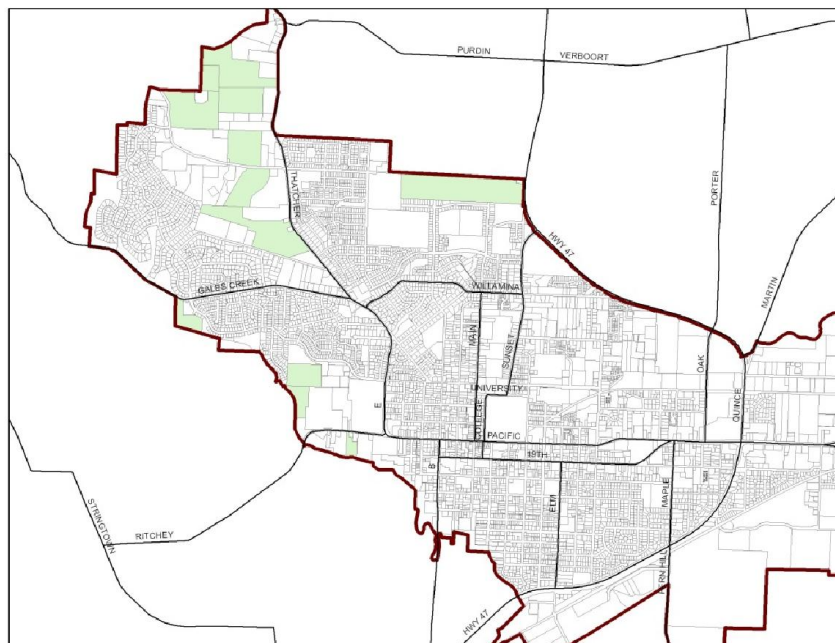
To expand an urban growth boundary for a school site, the city would need to make a special needs argument consistent with the public facilities and services factor of statewide planning Goal 14. The application must identify clear standards for required school sites and must demonstrate that viable alternative sites do not exist within the boundary.

Buildable Residential Land

The map below shows the location of vacant and developable sites within the Forest Grove portion of the regional urban growth boundary large enough to accommodate elementary schools. The highlighted parcels are at least 10 acres in area and designated for residential development. Elementary schools are permitted as conditional uses within the City's residential development zones.

Buildable Residential Land

Source: City of Forest Grove Planning Division



School Funding

ORS 195.110(5)(a)(D) Financial plans to meet school facility needs including an analysis of available tools to ensure facility needs are met.

Available financing tools include:

- General Obligation Bonds – voter approved property tax levy for capital construction and land acquisition. School District property tax rate in Forest Grove is \$8.2965 per \$1,000 of taxable assessed value. Local Sources: Property Taxes - \$8.9 million in (2009-2010);
- Construction Excise Tax – the Construction Excise Tax was passed by the 2007 Oregon Legislature. Under the law a school district may impose a construction excise tax on new structures and expansions. A school district may impose a \$1 per square foot charge of new residential construction and 50 cents per square foot for new non-residential construction. The city collects the Construction Excise Tax on behalf of the school district at time of building permit issuance. The proceeds may be used for capital projects and construction;
- Qualified Zone Academy Bonds (QZAB) – A QZAB is a non-interest bearing bond that the borrowing school pays back on 15 years. The QZAB is a federal program annually appropriated by Congress. The program is administered by the Oregon Department of Education. QZAB may be used for renovating and repairing buildings, investing in equipment and up-to-date technology, developing challenging curricula, training quality teachers. Eligible school districts are those where 35 percent or more of the students are eligible for free or reduced-price school meals. According to the Forest Grove School District 2010 Annual Report, 61% of district students receive free or reduced school lunches. A 10% match from a private business is required;
- State School Fund Grant;
- Common School Fund;
- State Managed Timber Revenue; and
- Miscellaneous Donations and Grants.

True to Forest Grove's commitment to education, voters approved several bond measures to improve local school facilities. Bond measures were passed in 1994, 2000 and 2010. The 1994 measure provided funds for a new classroom wing at Forest Grove High School. The classrooms were constructed in 1998. The 1994 bond will be paid off in 2012.

The 2000 bond provided funds for the construction of Fern Hill and Tom McCall Elementary Schools. Completion of the new schools occurred in 2006. The 2000 bond will be paid off in 2021.

A \$65.3 million construction bond was approved by the voters in 2010. The bond will fund improvements to many schools in the district. Bond proceeds will fund construction of a new Joseph Gale Elementary school. The new school will replace the building originally constructed in 1954.

The Forest Grove School District does not anticipate moving forward with another bond measure until after 2021 at which time the 2000 bond will be paid off. Current bond proceeds are adequate to fund necessary improvements to school facilities during the 10-year planning period required by ORS 195.110.

Northwest Regional Education Service District (ESD)

The Northwest Regional Education Service District is a public entity responsible for providing special education instructional services and support services for 20 school districts in northwest Oregon. The Northwest Regional ESD serves school districts in Washington, Columbia, Clatsop, and Tillamook Counties. The regional office serving Forest Grove is located in Hillsboro. Funding for the ESD comes from a combination of property taxes, state timber tax receipts, the State School Fund, state and federal contracts and grants.

Pacific University

According to the Friends of Historic Forest Grove, Oregon's Pacific University is the oldest chartered university in the west. The Oregon Territorial Legislature granted its original charter as the Tualatin Academy in 1849. Pacific University is a private institution of higher learning with approximately 3,000 students as of 2010. Pacific University's undergraduate programs are centered in Forest Grove. The graduate studies have primarily migrated to the Hillsboro campus.

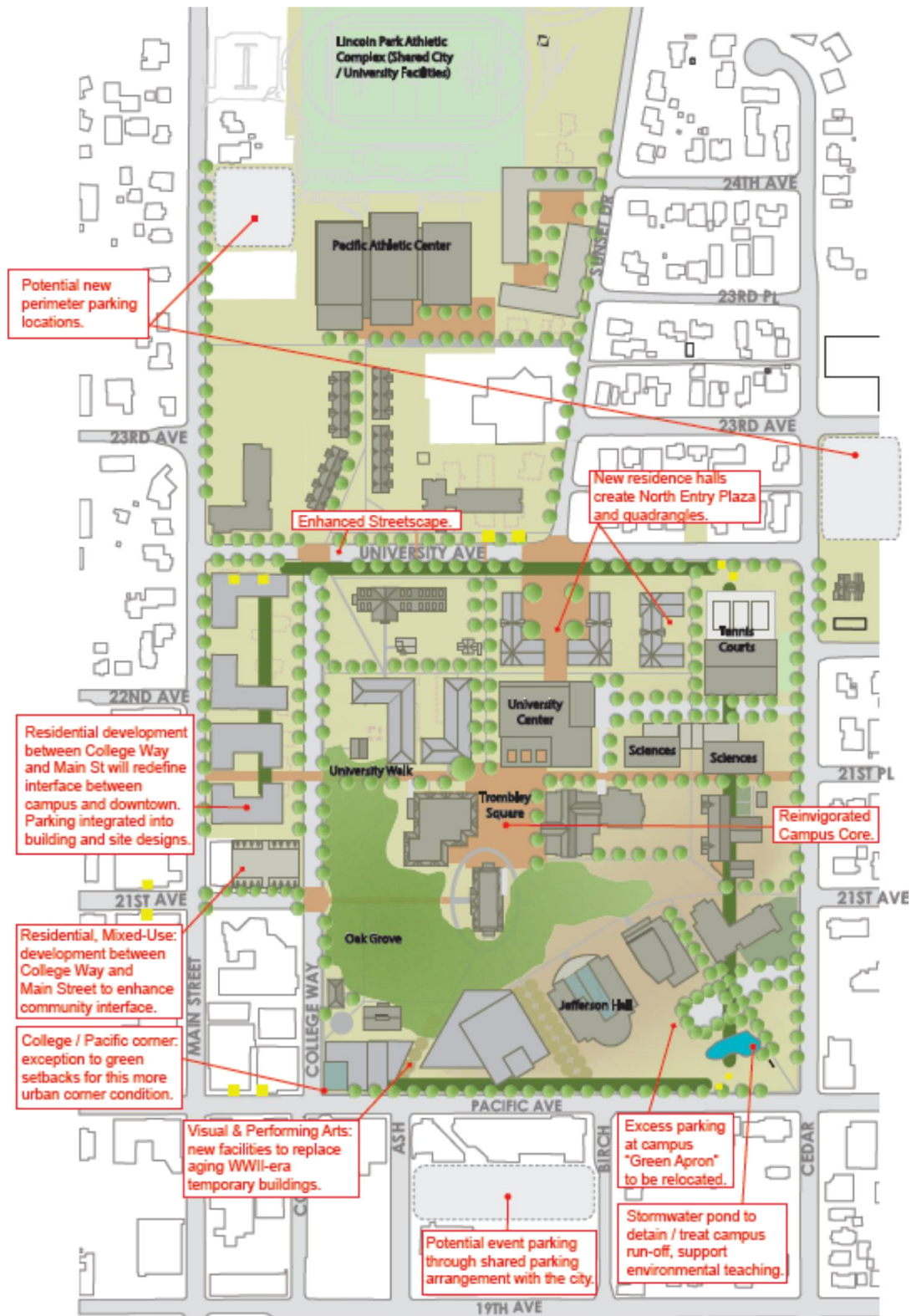
Pacific University has a well-respected optometry program. In addition, Pacific University offers degrees in education, health professions and writing to a new a few.

Pacific University prepared a master plan in 2006 to guide long term development of the campus. The master plan is a companion to the Pacific University 2015 Campus Master Plan for the Forest Grove campus. In addition to guiding on campus planning, the master plan is intended to improve the integration between the University and community. The plan also provides a foundation for coordinated infrastructure planning.

Key Elements of Master Plan 2015

The master planning process included a review of all existing campus buildings as well as space allocation and facilities programming. With the launch of the Health Professions Campus in Hillsboro, large areas of classroom and office space on the Forest Grove campus will become available for new uses. An important aspect of the Master Plan is that it caps enrollment at the Forest Grove campus. Residential construction is planned for housing 80% of Forest Grove campus students. Replacement of functionally obsolete buildings is also proposed. In addition, modest expansion of existing academic buildings will occur as needed. Parking is also addressed in the Master Plan to reduce potential conflicts with the area surrounding the campus.

The diagram below shows the basic layout of the Forest Grove campus.



Enrollment Projections

The table below shows anticipated enrollment changes at the Pacific University Forest Grove Campus as described in the Pacific University Master Plan dated May 2012. The table shows a slight decline in enrollment at the Forest Grove campus between the 2005-2006 enrollment and build-out enrollment. However, the projected on-campus resident population is expected to increase significantly from 700 residents to 1,360 students.

Pacific University Enrollment Projections

Source: Pacific University Master Plan (2012)

Timeline	Health Profession	Other Grad Programs	College of Arts and Sciences	On-Campus Residents	Forest Grove Student FTE	Faculty and Staff FTE	Total Campus FTE
2005-06	748	144	1,225	700	2105	470	2,575
2006-07	243	136	1,273	860	1,640	400	2,040
Build-Out 10-15 yrs	0	230	1,700	1,360	1,930	370	2,300

Campus Housing

Pacific University has a goal of accommodating 80% of the undergraduate housing needs on-campus by the year 2015. Currently, there are 700 on-campus residents. This number should increase to 1,360 at build-out. Demand for off-campus housing should decrease as enrollment in Forest Grove declines and more students are accommodated on-campus. Therefore, the university will not have a significant impact on the demand for additional housing, especially apartments, near the campus.

Community Interface

The Master Plan addresses how the university integrates with the surrounding area and community. The Master Plan recommends reinforcing the physical, visual and perceptual linkages between the campus and the surrounding community of Forest Grove. In addition, the plan emphasizes fostering improved connections between the Pacific University campus and the City of Forest Grove and other community organizations

Coordinated Land Use and Transportation Planning

As the plan states "With the Health Professions campus opening, connections between Forest Grove and the rest of the Portland metropolitan area will become more important for the University. The University plans to be an active partner with public agencies in pursuing improved transit service to the community." To this end the plan recommends:

- Working with all relevant agencies to plan for eventual light rail service to Forest Grove;
- Promoting a multi-modal system based on a balanced transportation network that allows for cars, buses, bicycle and pedestrians and in the long term either a high capacity bus lane, diesel motorized units, or light rail between the Forest Grove and Hillsboro campus; and
- Developing partnership for interim transportation projects such as shuttles and rideshare programs.

University District

The Master Plan recommends creation of a “university district” around the campus. This district would recognize the University environs as a distinct part of Forest Grove with specific characteristics that should be accentuated. In addition, the district would encourage the development of land uses that are inviting to students as well as people who work downtown or who are visiting from the surrounding residential neighborhoods or the larger metropolitan area. Design standards and guidelines could promote ground floor uses are pedestrian friendly, with windows, patios and pedestrian amenities that make the streetscape more inviting for pedestrians.

Sustainability Efforts

The long term sustainability of Pacific University is a shared goal of both the City and university. The university endeavors to construct new buildings that are designed to reduce the impact on the environment. The Master Plan recommends furthering sustainability efforts through enhanced energy and water conservation incentive programs, development of renewable energy systems, and construction of innovative systems for storm water and wastewater. In addition, the Master Plan supports creating a market for local producers of materials, goods and services needed by the university.

Amendments to Approved Master Plan

An application for an amendment to an approved master plan is addressed in Development Code. An amendment must address all relevant requirements similar to approval of a new master plan. Approval of an amendment is a legislative process requiring review by the Planning Commission with final action taken by the City Council. Review of the amendment is limited to the area affected by the amendment and does not include reconsideration of the master plan zone as a whole.

Portland Community College

Portland Community College has several campuses serving the Portland region including Forest Grove. The facility closest to Forest Grove is the Rock Creek Campus located on 185th Avenue, north of the Sunset Highway in the Bethany area of Washington County. The main PCC campus is located in southwest Portland near Interstate 5 and Barbur Boulevard.

Portland Community College also offers classes at the college’s Hillsboro Center in downtown Hillsboro. The Hillsboro Center opened during the winter of 2002. This facility has upgraded technology, Internet access, a testing room, a study room, three classrooms, and computer lab, art classroom and common area. The Hillsboro Center offers a variety of university transfer classes and professional and technical courses. English as a second language is also taught at the Hillsboro Center. There is direct bus service from Forest Grove to the Hillsboro campus on Bus Line 57.

Expansion of Portland Community College programs in Forest Grove is not anticipated.

Vocational Schools

There are several private vocational schools offering training in select employment fields. Schools include the Northwest College of Hair Design in Hillsboro, Elite Truck School in Hillsboro and New Era Computers in Cornelius.

Goals and Policies

Issues

As the City of Forest Grove grows over the next two decades, the community must formulate plans to improve and expand existing educational facilities and service if the city is to meet the growing and changing needs of its residents. While in most cases present facilities and services are adequate, in the future many, if not all of these schools, will not be capable of handling anticipated student enrollment.

Local Goals

1. Support the Forest Grove School district's effort to provide complete educational facilities and services through the high school level.
2. Schools shall be located in residential and commercial areas. These uses shall require special review considerations.
3. Schools shall be located to serve residential neighborhoods.
4. In partnership with the Forest Grove School District develop a school capacity formula as a basis for evaluating proposed changes to land use policies.
5. Adopt standards and criteria for new school facilities by facility type.
6. The City of Forest Grove and Cornelius should work cooperatively with the Forest Grove School District to identify specific locations for school needs of the school district and individual cities.
7. Promote and facilitate the coordinated development of new and expanded school facilities through adoption of a school master plan zone.

Local Policies

1. Cooperate with the School District to ensure opportunities for adequate school sites necessary to serve an expanding population.
2. Encourage the location of schools within the urban growth boundary and within walking distance for students.
3. Commercial and residential zones shall permit schools with standards for screening, landscaping, parking and access through conditional use procedures to reduce conflict with other uses.

Education & School Facilities

Goals & Policies

4. School sites based on future growth and land use expectations shall be identified on the comprehensive plan map to serve existing and future neighborhoods.
5. Adopt an agreement with the School District for the use of their facilities for multiple use, particularly in summer recreation programs.
7. Encourage implementation of cost-effective alternatives to construction of new school facilities to meet projected enrollment needs.

Oregon Revised Statutes Chapter 195.110 Findings

195.110 School facility plan for large school districts.

(1) As used in this section, “large school district” means a school district that has an enrollment of over 2,500 students based on certified enrollment numbers submitted to the Department of Education during the first quarter of each new school year.

The Forest Grove School District has a 2009/2010 enrollment of nearly 6,000 students. This enrollment exceeds the minimum threshold for a large school district. Therefore, the requirements of ORS 195.110 are applicable to the Forest Grove School District and the City of Forest Grove Comprehensive Plan update.

(2) A city or county containing a large school district shall:

(a) Include as an element of its comprehensive plan a school facility plan prepared by the district in consultation with the affected city or county.

This element of the Forest Grove Comprehensive Plan is intended to serve as the school facility plan required under this section. This plan was prepared through a cooperative process between the City of Forest Grove and Forest Grove School District.

The Forest Grove School District also prepared a master plan in 2006 that identifies long term building needs. The master plan also provided the basis for passage of a successful bond measure approved in 2010 to fund priority needs.

(b) Initiate planning activities with a school district to accomplish planning as required under ORS 195.020.

The City of Forest Grove initiated planning activities with the Forest Grove School District as required under ORS 195.020.

(3) The provisions of subsection (2)(a) of this section do not apply to a city or a county that contains less than 10 percent of the total population of the large school district.

Forest Grove is the largest city served by the Forest Grove School District with an estimated population of over 20,000 persons in 2010. The estimated 2010 population of Cornelius is approximately 10,544 persons. Forest Grove represents approximately two-thirds of the population living in incorporated areas within the Forest Grove School District. The City of Forest Grove contains more than 10 percent of the total population of the Forest Grove School District. As a result, Subsection 2(a) applies to the City of Forest Grove.

(4) The large school district shall select a representative to meet and confer with a representative of the city or county, as described in subsection (2)(b) of this section, to accomplish the planning required by ORS 195.020 and shall notify the city or county of the selected representative. The city or county shall provide the facilities and set the time for the planning activities. The

representatives shall meet at least twice each year, unless all representatives agree in writing to another schedule, and make a written summary of issues discussed and proposed actions.

The Forest Grove School District Business Manager was the assigned representative from the District participating in the planning process. The City and District met periodically to coordinate planning activities. Coordination activities include staff-to-staff meetings and joint meetings between the Forest Grove City Council and Forest Grove School District Board.

(5)(a) The school facility plan must cover a period of at least 10 years and must include, but need not be limited to, the following elements:

(A) Population projections by school age group.

The Forest Grove School District does not have a staff demographer or the resources available to prepare long-term population projections by school age group. For purposes of the Forest Grove Comprehensive Plan, the City estimated population by school age group for the year 2030. The City's estimate is based on long-term household and population projections, prepared by Metro, for the year 2030. Population for the year 2030 was assigned to school age groups based on the current (year 2010) distribution of population by age group. The City recognizes that this methodology is not as accurate as performing a cohort survival analysis. However, this technique is the best way to assess potential population by age group given available resources.

(B) Identification by the city or county and by the large school district of desirable school sites.

Map of desirable school sites/buildable residential land.

(C) Descriptions of physical improvements needed in existing schools to meet the minimum standards of the large school district.

This was addressed by the 2006 Forest Grove School District Master Plan Report. The physical improvements identified in the Master Plan address needs for the minimum 10-year period required by ORS 195.110.

(D) Financial plans to meet school facility needs, including an analysis of available tools to ensure facility needs are met.

The 2006 Forest Grove School District Master Plan Report identifies costs for identified school facility needs. This information served as the basis for a bond measure approved by voters in 2010. Revenue provided through the bond will ensure needs are met for the 10-year period required by ORS 195.110.

(E) An analysis of:

(i) The alternatives to new school construction and major renovation; and

This element of the Forest Grove Comprehensive Plan includes an analysis of alternatives to new school construction and major renovation. The Forest Grove School District has employed a variety of techniques to minimize new construction and major renovation where feasible such as placement of temporary classrooms, and adjustment enrollment boundaries.

(ii) Measures to increase the efficient use of school sites including, but not limited to, multiple-story buildings and multipurpose use of sites.

The Forest Grove School District has implemented measures to increase the efficient use of school sites including construction of multiple-story buildings, conversion of an old school to office space, and constructing classroom space at the Taylor Way support annex.

(F) Ten-year capital improvement plans.

From the school district.

(G) Site acquisition schedules and programs.

(b) Based on the elements described in paragraph (a) of this subsection and applicable laws and rules, the school facility plan must also include an analysis of the land required for the 10-year period covered by the plan that is suitable, as a permitted or conditional use, for school facilities inside the urban growth boundary.

The Forest Grove School District owns one vacant site within the urban growth boundary large enough to accommodate school land needs during the twenty-year planning period addressed by the Forest Grove Comprehensive Plan.

(6) If a large school district determines that there is an inadequate supply of suitable land for school facilities for the 10-year period covered by the school facility plan, the city or county, or both, and the large school district shall cooperate in identifying land for school facilities and take necessary actions, including, but not limited to, adopting appropriate zoning, aggregating existing lots or parcels in separate ownership, adding one or more sites designated for school facilities to an urban growth boundary, or petitioning a metropolitan service district to add one or more sites designated for school facilities to an urban growth boundary pursuant to applicable law.

The Forest Grove School District has not determined that there is an inadequate supply of suitable land for school facilities for the 10-year period covered by the school facility plan.

(7) The school facility plan shall provide for the integration of existing city or county land dedication requirements with the needs of the large school district.

The Forest Grove Development Code addresses land dedication requirements associated with development. Existing land dedication requirements for access and infrastructure apply to school sites similar to any other type of development. These dedication requirements are based on state statute and case law taking into account the impact associated with the proposed development. Existing City code does not require the dedication of land by private developers for school needs. The city collects the School Construction Excise Tax for school needs at time of building permit issuance.

(8) The large school district shall: (a) Identify in the school facility plan school facility needs based on population growth projections and land use designations contained in the city or county comprehensive plan; and (b) Update the school facility plan during periodic review or more frequently by mutual agreement between the large school district and the affected city or county.

This element of the Forest Grove Comprehensive Plan addresses facility needs based on land use designations contained in the comprehensive plan and growth projections prepared in coordination with Metro.

(9)(a) In the school facility plan, the district school board of a large school district may adopt objective criteria to be used by an affected city or county to determine whether adequate capacity exists to accommodate projected development. Before the adoption of the criteria, the large school district shall confer with the affected cities and counties and agree, to the extent possible, on the appropriate criteria. After a large school district formally adopts criteria for the capacity of school facilities, an affected city or county shall accept those criteria as its own for purposes of evaluating applications for a comprehensive plan amendment or for a residential land use regulation amendment. (b) A city or county shall provide notice to an affected large school district when considering a plan or land use regulation amendment that significantly impacts school capacity. If the large school district requests, the city or county shall implement a coordinated process with the district to identify potential school sites and facilities to address the projected impacts.

The criteria for the capacity of school facilities contained in this document is presented for illustrative purposes only. The City and District may prepare criteria to be used for evaluation of comprehensive

plan zoning code amendments. The criteria shall be incorporated into the Forest Grove Comprehensive Plan through a text amendment to the plan.

It is City of Forest Grove policy to provide notice to the Forest Grove School District when considering a plan or land use regulation that may impact school capacity. The Forest Grove School District has not requested that the City implement a coordinated process to identify potential school sites and facilities to address the projected school impacts resulting from development.

(10) A school district that is not a large school district may adopt a school facility plan as described in this section in consultation with an affected city or county.

With an enrollment of nearly 6,000 students, the Forest Grove School District meets the requirements for a large school district as defined under ORS 195.110. Therefore, this section is applicable.

(11) The capacity of a school facility is not the basis for a development moratorium under ORS 197.505 to 197.540.

The capacity of a school facility included in the Forest Grove Comprehensive Plan will not be the basis for a development moratorium under ORS 195.505 to 197.540.

(12) This section does not confer any power to a school district to declare a building moratorium.

The Forest Grove School District does not have the power to declare a building moratorium.

(13) A city or county may deny an application for residential development based on a lack of school capacity if: (a) The issue is raised by the school district; (b) The lack of school capacity is based on a school facility plan formally adopted under this section; and (c) The city or county has considered options to address school capacity.

The City does not intend to use this element of the Forest Grove Comprehensive Plan to deny an application for residential development based on a lack of school capacity.

Chapter 9

Natural Resources & Hazards

The natural amenities that made Forest Grove attractive for permanent settlement also create potential hazards for persons and property. Forest Grove is located near the Coast Range foothills and Tualatin River watershed. Gales Creek and Council Creek are prominent features providing a sense of place in the metropolitan region. Forest Grove is located in an area susceptible to a variety of natural hazards. Forest Grove's location near the Coast Range foothills, Gales Creek, Council Creek provides scenic vistas. These amenities also present potential hazards due to landslide and flooding.

Oregon's land use planning program requires that communities in Oregon address potential natural hazards to minimize risks to people and property. Natural hazards include earthquakes, floods, landslides, wildfire, and wind storms.

In 2010, the City of Forest Grove adopted the Forest Grove Emergency Operations Plan. The plan defines the roles and responsibilities of emergency responders that serve the Forest Grove area. In addition, the Emergency Operations Plan identifies specific hazards potentially affecting the community.

Oregon Statewide Land Use Planning Goal 7

Oregon Statewide Land Use Planning Goal 7 addresses areas subject to natural hazards. The primary objective of Goal 7 is to protect people and property from natural hazards. Goal 7 requires that local governments adopt comprehensive plans (inventories, policies, and implementing measures) to reduce risk to people and property from natural hazards. Natural hazards for purposes of Goal 7 include floods, landslides, earthquakes and related hazards, tsunamis, coastal erosion, and wildfires. Local governments may identify and plan for other natural hazards. This element of the Comprehensive Plan addresses the topics included under Goal 7.

Goal 7 also suggest that when reviewing development requests in high hazard areas, local governments should require site-specific reports where appropriate for the level and type of hazard (e.g. hydrologic reports, geotechnical reports or other scientific or engineered reports) prepared by a licensed professional. Such reports should evaluate the risk to the site as well as the risk the proposed development may pose to other properties. While development should not be completely prohibited due to slope care should be taken to avoid development on unstable slopes.

Natural Resources & Natural Hazards

Building limitations are associated with the character of the geology and the soils in the Forest Grove study area. Four general geologic formations underlie the region and produce soils. Columbia River Basalt and a layer of sedimentary rock lie in the northwest of the study area composing the uplands of David Hill. Building is limited here by steep slope, uneven settlement, sewage disposal problems, and by potential erosion and landslides. The two other geologic layers are the young alluvial deposits in the flood plain of the area and the older valley fill which underlies much of the City and areas to the north. Building limitations associated with these formations result from poor drainage and moisture problems leading to potential shrink-swell, low shear strength (weak foundation) and high water table.

Oregon Statewide Land Use Planning Goal 5

Oregon Statewide Land Use Planning Goal 5 addresses Natural Resources. The purpose of Goal 5 is to protect natural resources and conserve scenic and historic areas and open spaces. This chapter of the Comprehensive Plan addresses the natural resources aspect of Goal 5. Historic areas and open spaces are addressed in the Public Facilities and Community Services chapter of the Comprehensive Plan.

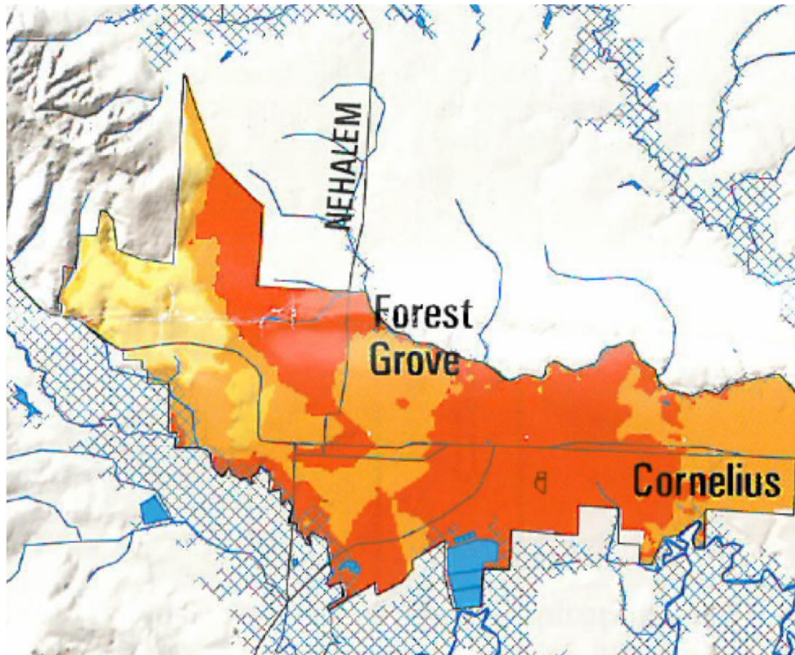
Seismic Activity

Seismic activity presents a potential risk for the Forest Grove community. Several identified fault lines run parallel to the Coast Range just west of Forest Grove. The historical record shows that more than 56 earthquakes have been widely felt in or near the greater Portland area. The more severe earthquakes occurred in 1877, 1880, 1953, 1962, and 1993.

Forest Grove Town Center is characterized by many late 19th and early 20th Century buildings. These buildings add to the charm of the community. These same buildings are also susceptible to potential damage during a moderate to severe seismic event. City policy should reinforce state building requirements regarding seismic retrofits and upgrades. Effort should be made to protect these community resources through building reinforcement.

Many utility lines are placed underground including water, sewer electricity and telecommunications. These connections are vulnerable to damage during a seismic event.

Damage from seismic activity may result from amplification, liquefaction, and slope instability. The map below, prepared by the Oregon Department of Geology and Mineral Industries, shows relative earthquake hazard areas. The darker orange areas are locations rated as a high relative earthquake hazard area. Yellow indicates a lower zone of earthquake hazard.

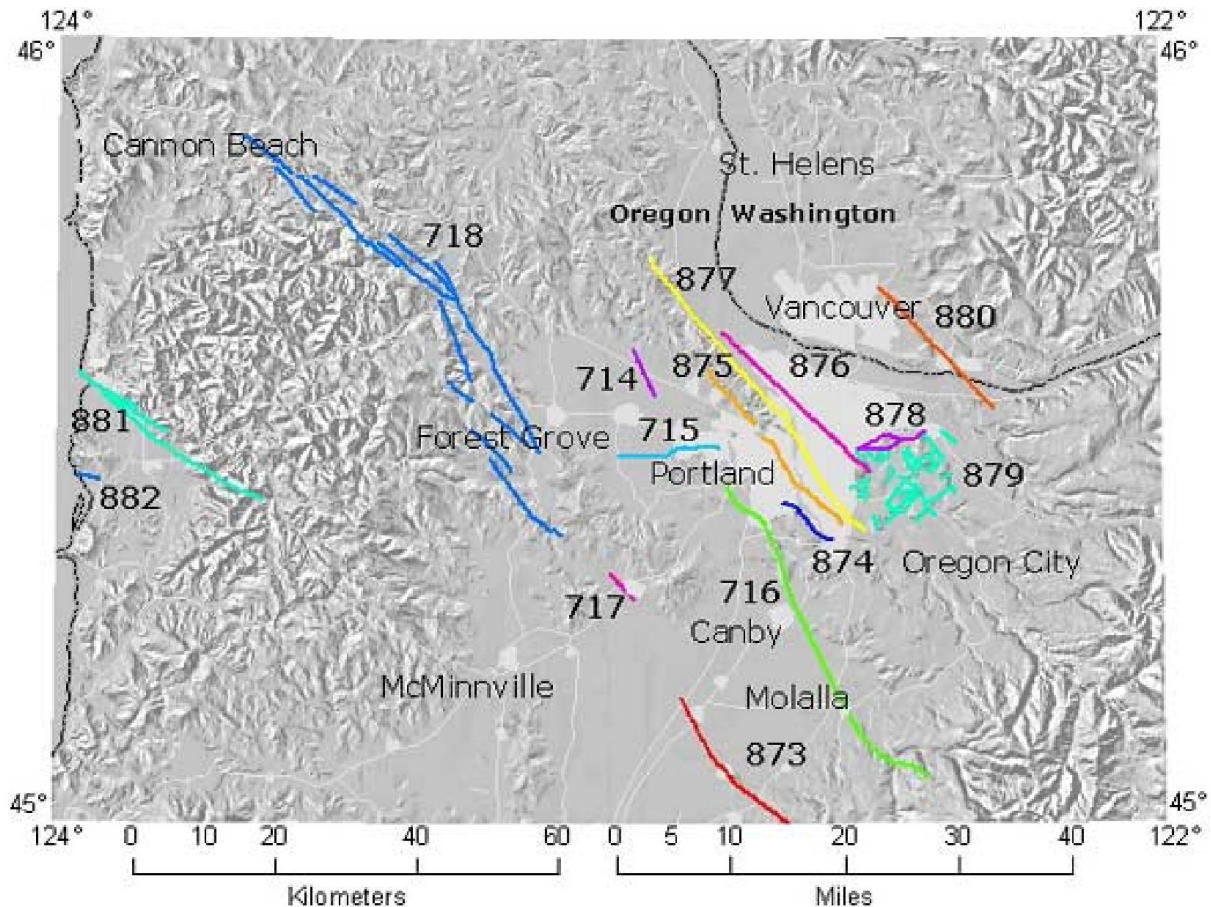


Source: Oregon Department of Geology and Mineral Industries and Metro

As the Oregon Emergency Management website states: Since the late 1980's, the citizens of Oregon have become increasingly aware that their home is definitely earthquake country and that damaging earthquakes will strike the state. This growing awareness increased dramatically in 1993 when western Oregon experienced two damaging upper crustal earthquakes, Scotts Mills (magnitude 5.6) and Klamath Falls (magnitudes 5.9 and 6). The last significant earthquake in Oregon, prior to 1993, was in 1962.

In addition to earthquake activity in the historic record, prehistoric evidence for great subduction zone earthquakes and associated tsunamis has been found in coastal wetlands along the Pacific Northwest coast. The last one, approximately 300 years ago, may have been a magnitude 9 or greater, affecting coastlines from British Columbia to Northern California. What is most surprising is that evidence for this great earthquake also came from Japan. Japanese historic records indicate that a destructive distant-produced tsunami struck their coast on January 26, 1700. It is very possible that the subduction zone earthquake, that produced this tsunami, occurred off the Pacific Northwest coast. Indian legends also lend some support to the timing of this last event.

Faults



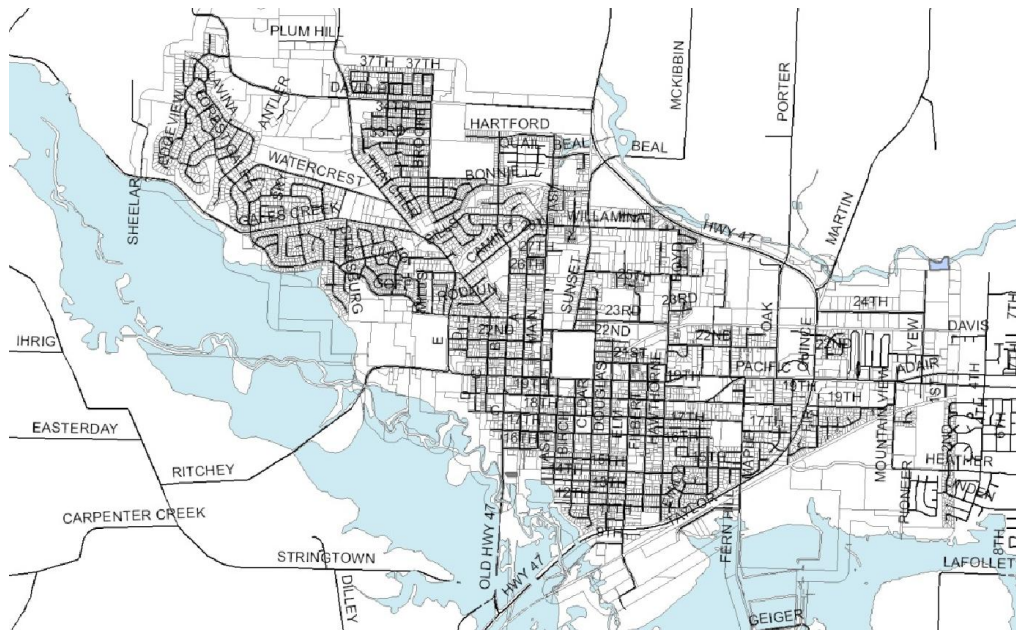
Source: City of Forest Grove Emergency Operations Plan (2010)

Floods

Northwest Oregon is susceptible to strong winter storms that are carried along the Jet Stream over the Pacific Ocean. Heavy rain events are not uncommon during the fall, spring, and autumn months. These rain events caused localized flooding especially south of Forest Grove along the Gales Creek. B Street south of the Forest Grove Town Center is often impacted by Gales Creek flood waters. Fern Hill Road, south of Highway 47, also floods after heavy rain events. Closure of these streets presents and inconvenience to Forest Grove travelers. Alternative transportation routes exist including Elm Street, Golf Course Road in Cornelius and Oregon Highway 219 in Hillsboro.

Forest Grove is located Gales Creek poses the greatest risk to flooding. Winter storms routinely result in flooding over B Street between Highway 47 and the Forest Grove Town Center. In addition flooding also occurs over Fern Hill Road south of Highway 47. This flooding reduces access from Forest Grove to points south.

The map below shows the extent of flooding impacting Forest Grove during the 1996 Flood. As the map shows B Street, a portion of Highway 47, and Fern Hill Road were inaccessible during the 1996 Flood



Source: Metro, Regional Land Information System (RLIS)

The land within this flood plain constitutes about 3500 acres and is associated with sections of Gales Creek, the Tualatin River and Council Creek. Most of this land is in agricultural uses south of the City with only a few acres actually within the present city limits. The flood plain represents a large section of land bordering the City which blocks expansion for development to the south and north. Because of the building hazard, the flood plain represents a large section of land with open space characteristics. This land could fit easily into an open space system while simultaneously utilizing it as an agricultural resource. Drainage hazard areas exist and are identified in addition to the three major streams in the area.

Scoggins Dam

Scoggins Dam is located southwest of Forest Grove near the City of Gaston. According to the Bureau of Reclamation Tualatin Project Internet Site:

Scoggins Dam is a 151-foot-high zoned earth fill structure that is 2,700 feet long at the crest and contains 4 million cubic yards of material. The upstream side of the dam is faced with rock riprap for protection against wave action; the downstream side is faced with topsoil and planted with grass. Total capacity of Henry Hagg Lake is 59,910 acre-feet (active 53,600 acre-feet).

As stated in the Forest Grove Emergency Operations Plan:

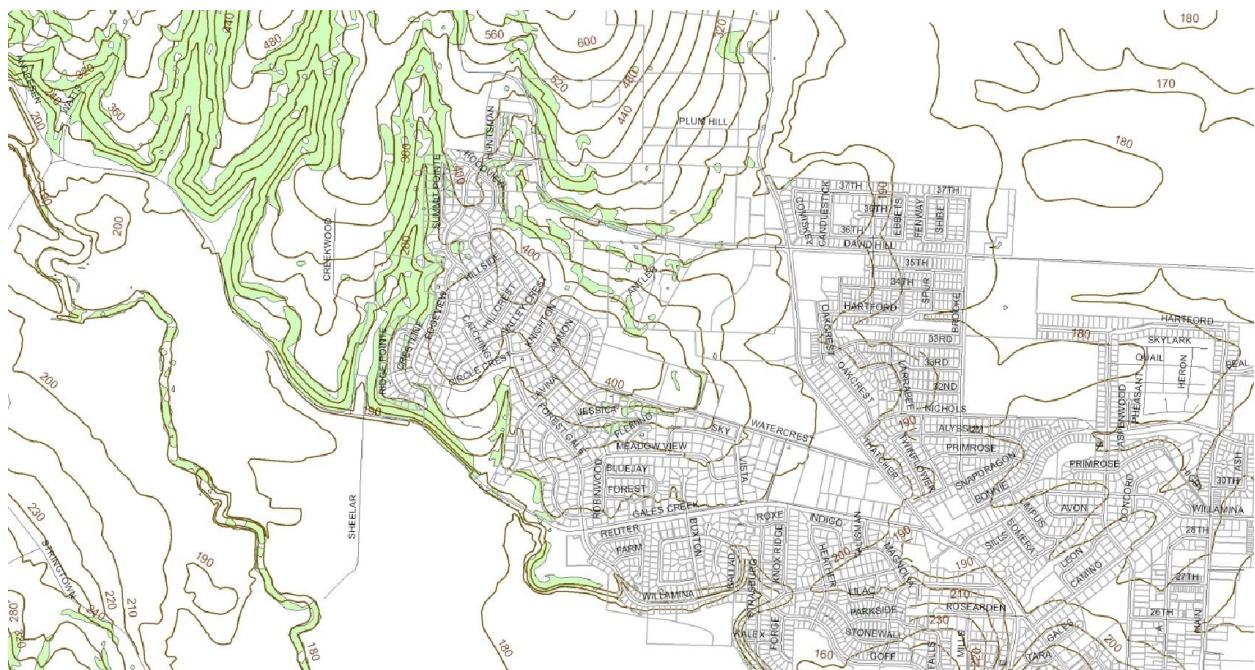
“[A]ll dams are subject to earthquakes, tremors and other threats (sabotage, hurricanes, ice flows, winter storms, and severe runoff). Should the Scoggins Dam fail, downstream homes, roads, bridges, fields, etc. could quickly become saturated and flooded. While flood waters impacting Forest Grove could be relatively shallow, flooding would cause debris exacerbating conditions. Flood debris could release environmental contaminants and potentially impede movement and commerce. The Scoggins Dam Emergency Action Plan, prepared by the U.S. Bureau of Reclamation, outlines procedures to be taken in the event of a dam failure.”

Slope

Lands with slopes above 20% are considered constrained for purposes of building. A considerable amount of such land exists in the northwest section of the study area on David Hill mixed with land of lesser slope. Only a small portion of this hazardous sloping land exists in the existing city limits with the bulk of the study areas and only steep slopes on David Hill might be subject to such hazards.

The David Hill area includes the steepest land within the Forest Grove portion of the UGB. Slopes exceed 20% with elevations ranging from 320 feet to 480 feet. Building limitations are associated with character of the geology and soil types. Four general geologic formations underlie the Forest Grove area. Columbia River Basalt and a layer of sedimentary rock are present in the northwest part of the UGB comprising the uplands of David Hill. Historically, building has been limited in this area due to steep slopes, uneven settlement, sewage disposal problems, and by potential erosion and landslides. The two other geological layers are alluvial deposits in floodplains and older valley fill which underlies much of the City and areas to the north. Building limitations associated with these areas formations result from poor drainage and moisture problems leading to potential shrink-swell, low shear strength and high water table. High water table corresponds to seasonal flooding.

The map below shows contour elevations and areas that exceed 25% slope.



Source: Metro, Regional Land Information System (RLIS)

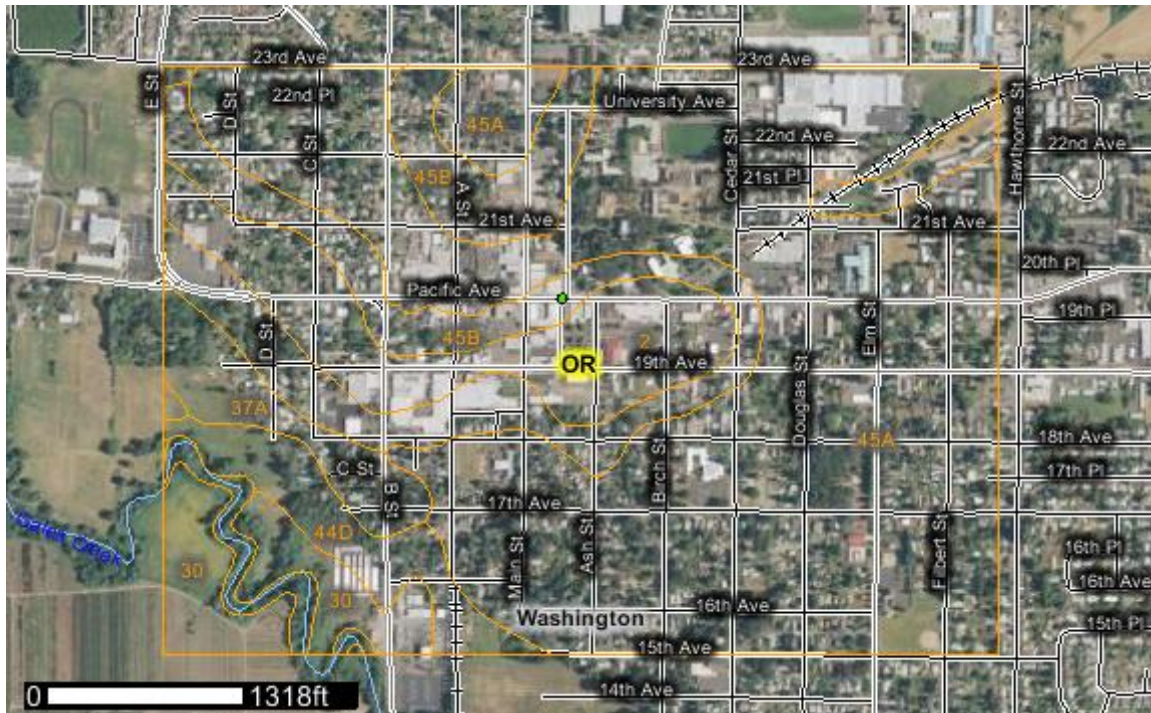
A detailed topographic map of the Hartford, Connecticut area. The map features brown contour lines indicating elevation, with labels such as 100, 200, 300, 400, 500, 600, and 700 feet. Major roads are shown in thick black lines, including I-84 (Shennedy Highway) running horizontally across the top and I-91 (Main Street) running vertically on the right. Numerous neighborhood names are labeled in black text, including West Hartford, East Hartford, and Hartford. Specific landmarks like 'PLUM HILL' and 'SHERMAN' are also marked. The map includes a grid system with street names like '37TH ST' and '38TH ST' visible in the urban areas. The overall layout shows the transition from hilly, wooded terrain on the left to a more densely developed urban area on the right.

Soil Type

North of David Hill Road the predominant soil type is Laurelwood Silt Loam. This soil type is well drained, depth to water table more than 80 inches. South of David Hill Road the predominant soil type is Cornelius and Kinton Silt Loam. This soil type is moderately well drained. Depth to water table about 27 to 37 inches. East of Thatcher that predominant soil type is Woodburn Silt Loam. The Woodburn soils are on nearly level to gently sloping broad valley terraces at elevations of 150 to 400 feet above sea level. This soil type is moderately well drained with slow to medium runoff and slow permeability.

The maps below provide delineation of soil types in Forest Grove and associated characteristics. Soils in the region tend to be soft and slick especially in higher elevations.

Central Forest Grove



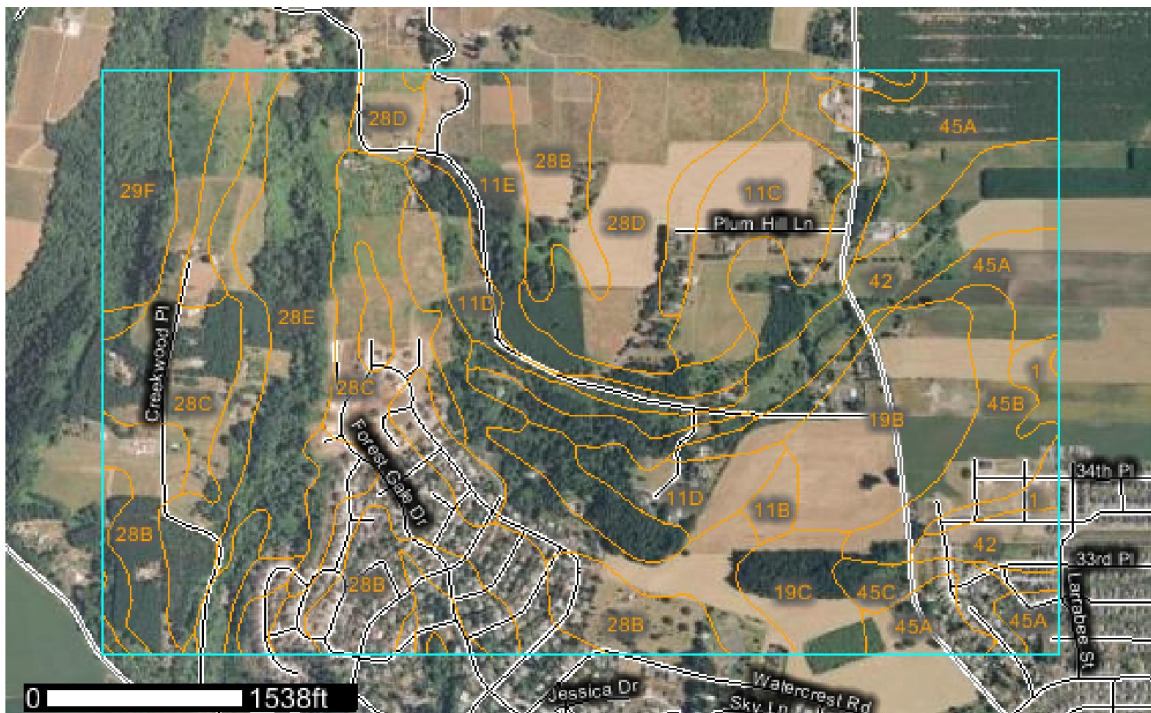
Source: US Soil Conservation Services, Online Mapping Tool, Internet Grab

45 A – Woodburn Silt Loam 0% to 3% slope (runoff is slow)

45 B – Woodburn Silt Loam (3% to 7% slope)

2 – Wapato Verboort Cove Association (very deep, poorly drained, level silt clay loams and clays)

David Hill Area



Source: US Soil Conservation Services, Online Mapping Tool, Internet Grab

Wildfire

While Forest Grove is not identified as being in a high risk wildfire area by the Oregon Department of Forestry, wildfire is a potential risk to certain areas of the community. The greatest for wildfire in Forest Grove is from the interface between wildland and developed areas. This is called the occluded wildland-urban interface characterized by islands of wildland vegetation inside a largely urbanized area.

The northwest part of Forest Grove is steeply sloped and forested. Most of the remaining developable land within the Forest Grove portion of the urban growth boundary is within this area. This area is most susceptible to potential wildfire.

The information below summarizes the steps that could be used to assess wildfire threat:

Step 1

- Select the areas to be evaluated;
- Define the area or scope of assessment;
- Using a map, display the interface areas; and
- Name or number each area.

Step 2

- Select the hazard components to consider in the assessment
- Assemble the list of hazard components
 - Fuel;
 - Topography;
 - Weather;
 - Fire history; and
 - Roofing materials.

Step 3

- Rank the hazard components;
- Define a system to rank the hazard level of the components;
- Evaluate and rank each individual component;
- Develop an overall hazard rating system; and
- Calculate the overall hazard rating.

Step 4

- Compile the hazard rankings in a useable format;
- Use a variety of display methods to make the data understandable; and
- Consider maps and computer modeling for analyzing data.

Step 5

- Develop future actions; and
- Use the information developed to reduce the fire-loss potential.

This assessment methodology is useful for identifying hazard areas. Once identified the population residing for project to reside in the hazard could be calculated. In addition, the value of structures could be calculated to estimate potential loss form a wildfire event.

Winter Storms

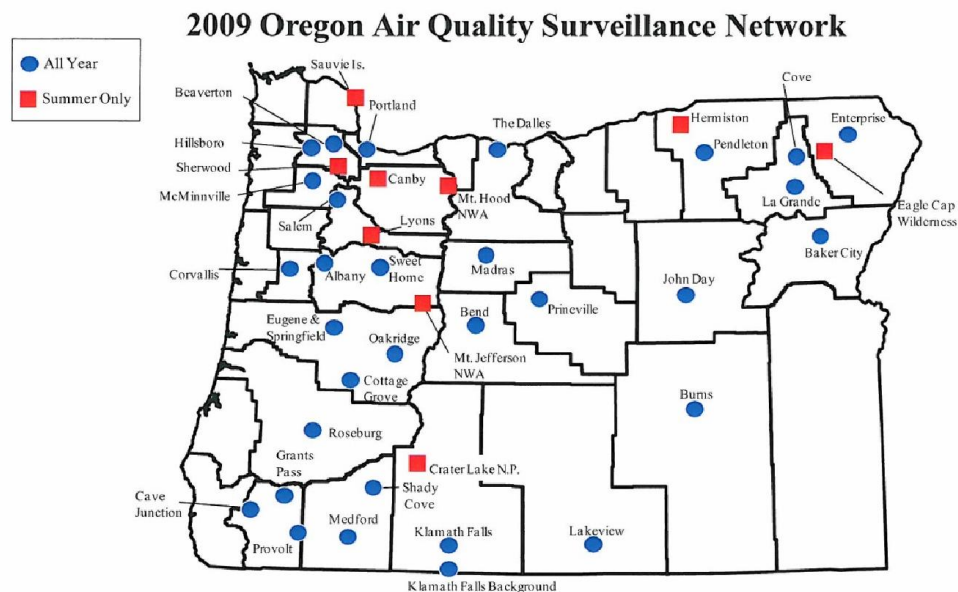
Forest Grove is susceptible to winter storms. Winter storms may result from strong winds, heavy rain and snow/ice. Strong winds may damage trees causing property damage and personal injury. The most common problem from winter storms includes tree damage and localized flooding.

Air Quality

The problem to be faced by Forest Grove and other fast growing communities in the state in the coming years will be how to accommodate their share of anticipated regional growth while at the same time protecting the quality of the community's environmental resources. As has often been the case in the past, as the resident population of an area increased, the demands placed upon the land for residential, commercial and industrial use has often had this development occurring in environmentally sensitive areas. As a result, the quality of the areas air, water and land resources has often suffered, with the damage done being irreversible. In the future, it will be up to each individual community in the state to develop and implement comprehensive guidelines for development to ensure that the economic benefits derived from growth will not be cut short from the unnecessary abuse or neglect of the community's environmental resources.

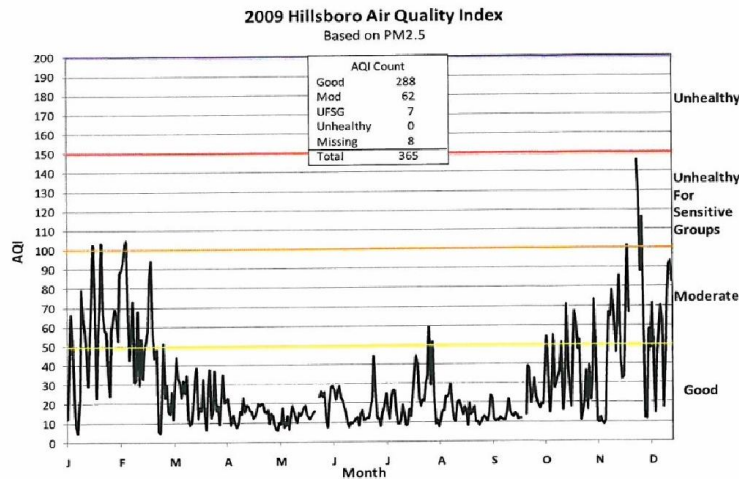
Lacking specific data on air quality in Forest Grove to evaluate the extent and degree of air pollution within the community and study area, data for Hillsboro from the Oregon Department of Environmental Quality was used for analysis.

The map below shows the Oregon Air Quality Surveillance Network. Monitoring stations in Washington County include Hillsboro, Beaverton, and Sherwood (summer only). An air monitoring station is also located in McMinnville.



Source: Oregon Department of Environmental Quality

The graph below shows the seasonal nature of air quality in the region as measured in Hillsboro. Air quality in western-Washington County tends to be worst during the winter months with the unhealthiest air quality in mid-November.⁴⁵



Source: Oregon Department of Environmental Quality

Water Quality

In 1972, Congress enacted the Water Pollution Control Act which directed states to establish standards relative to water quality and formulate regulations to ensure that these standards are met. In response to this Federal mandate, the Oregon Department of Environmental Quality established standards for all rivers in the state.

As a community in the greater Portland metropolitan area, the City of Forest Grove has worked closely with other local and regional governmental bodies, especially Washington County Clean Water Services, to ensure that the quality of surface and ground water resources of the city would be adequately protected from the unregulated discharge of wastewater.

Local ground- and surface water is a significant resource for the community. Water resources include:

- Clear Creek Watershed;
- Gales Creek;
- Scoggins Reservoir/Henry Hagg Lake;
- Tualatin River;
- Wetlands; and
- Groundwater.

Land use practices and development design affect the quality of the community's water resources. As such, the City will enact policies to protect and restore water resources in partnership with Washington

⁴⁵ USFG on the chart below means Unhealthy for Sensitive Groups

County Clean Water Services and Metro including Title 3 of Metro's Urban Growth Management Functional Plan (Water Quality and Flood Management) and Title 13 (Nature in Neighborhoods)..

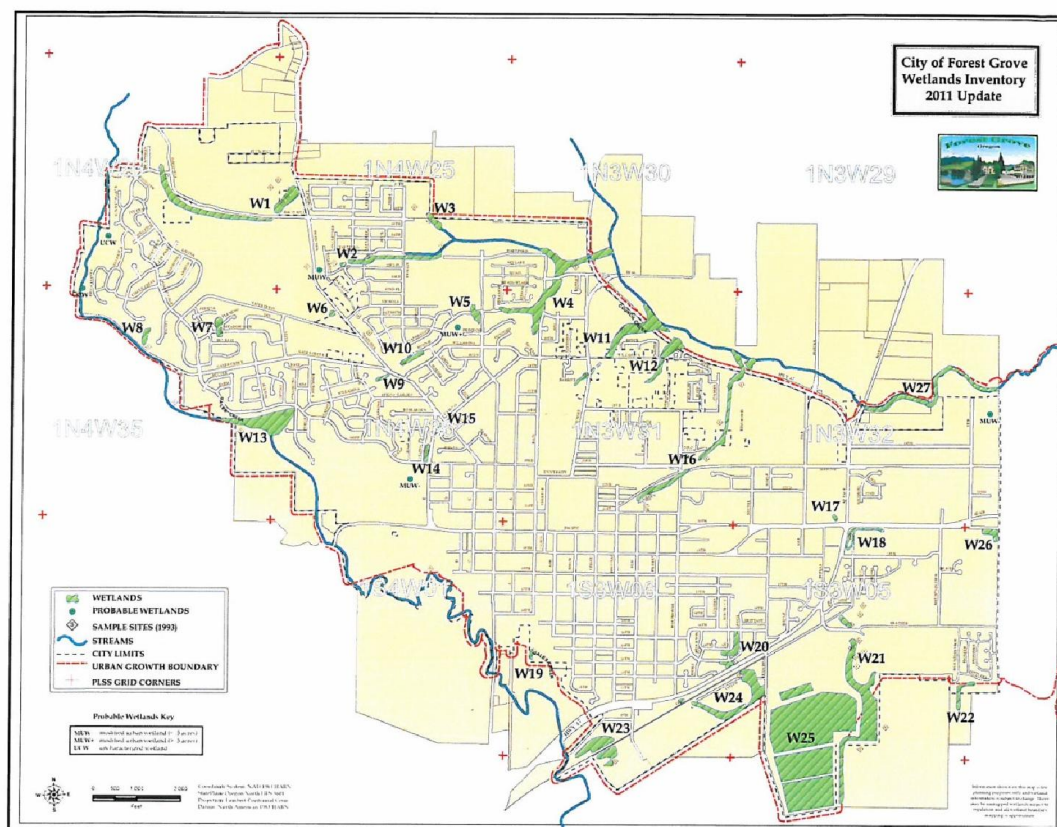
Complying with Oregon Statewide Land Use Planning Goal 6 (Air, Water and Land Resources Quality) requires that the City adopt policies and standards to protect water quality. The purpose of Goal 6 is to maintain and improve the quality of the air, water, and land resources of the state. Under Goal 6, local plans should take into account methods and devices for implementing Goal 6 including land use controls and ordinances. The Forest Grove Development Code is the primary means for implementing land use controls for the City. Such controls include requirements for storm water drainage and protection of natural resource areas.

The erosion and sediment control requirements of Title 3 and the Clean Water Services erosion control programs have a positive impact on reducing erosion and sedimentation affecting local streams and other water resources.

Wetlands

In 2011, the City reviewed the Local Wetland Inventory prepared in 1999. The purpose of the review was to confirm the location of wetlands in the City included isolated wetlands. The Local Wetland Inventory review and analysis is included as technical appendix to the Comprehensive Plan.

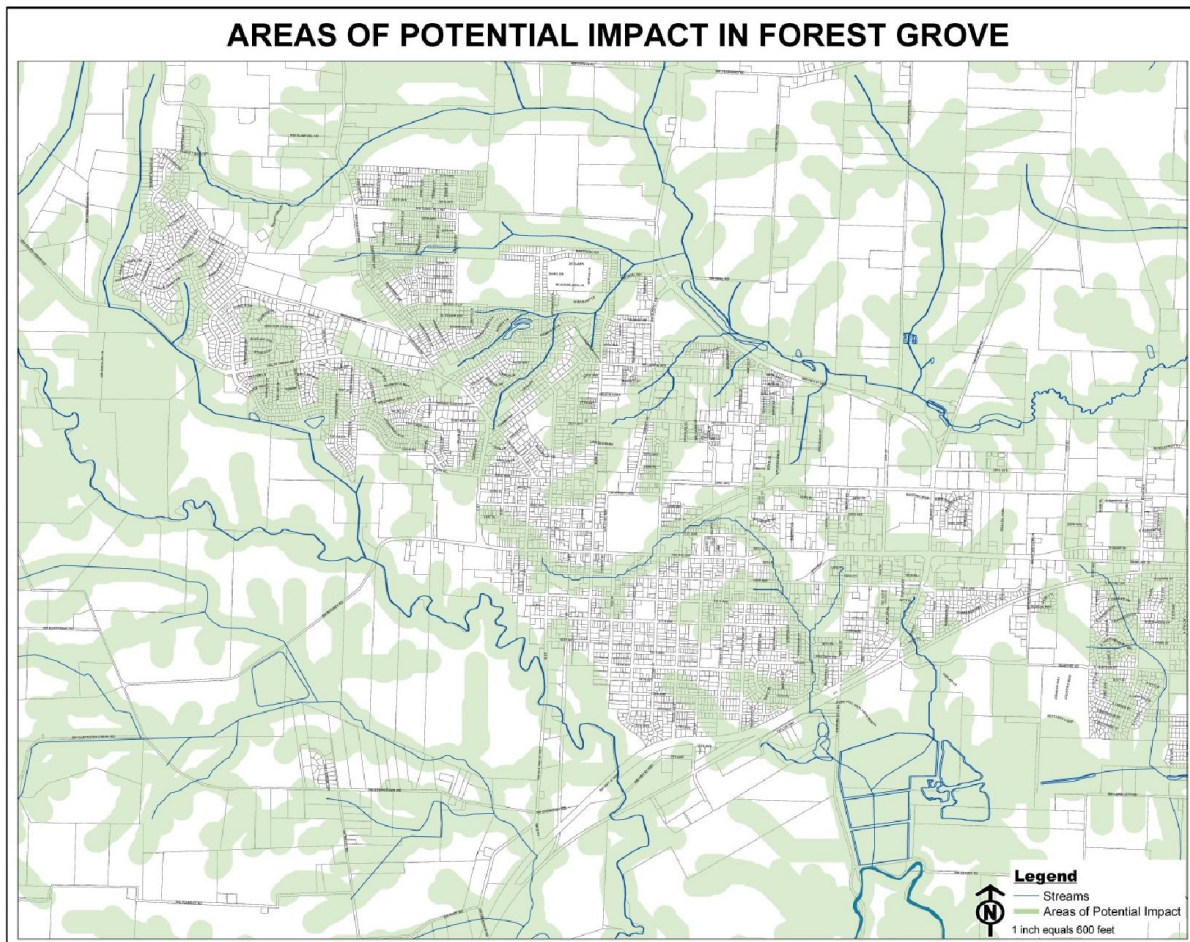
The map below shows the locations of identified wetlands in the Forest Grove planning area. Refer to the technical appendix for additional detail.



Source: City of Forest Grove, Wetland Inventory Update (2011)

Vegetative Corridors

Clean Water Services has mapped areas of potential development impact along streams in the Forest Grove area. These areas of potential impact are also referred to as “vegetative corridors.” The purpose of this chapter is to outline design requirements for storm and surface water management related to water quality Sensitive Areas and Vegetated Corridors. Greater review is required for projects within these areas to address potential water quality impacts. The review requirements are intended to prevent or reduce adverse impacts to the drainage system and water resources of the Tualatin River Basin. In combination with other state, federal, and local laws and ordinances, these requirements promote protection of the beneficial uses of waters within the Tualatin River Basin and within the Clean Water Services District including Forest Grove.



Source: Washington County, Clean Water Services

Natural Resources and Natural Hazards Goals

- 1) All development shall consider, take into account and demonstrate suitability relative to the natural hazard limitations of the Forest Grove area;
- 2) Flood plain areas shall be protected from incompatible uses to reduce potential for property damage;
- 3) The area's air quality shall be maintained and where possible improved to ensure community livability;
- 2) The area's water quality shall be protected, maintained and improved wherever possible to ensure livability; and
- 3) Maintain and improve community sustainability by promoting future economic activities that are environmentally desirable.

Natural Resources and Natural Hazards Policies

- 1) Areas with known Geologic hazards, or soils which the Soil Conservation Service has rated as severe hazard soils including shrink-swell potential, weak foundation support (shear strength), and erosion hazard shall permit construction and densities only when adhering to recommendations made through engineering analysis, review and ordinances;
- 2) Those involved in development will be required to address hazard conditions by the inclusion of basic environmental data (i.e. soil type, elevation of the flood plain, geologic limitations, etc.) and related designs and for engineering solutions in the submittal requirements for the development;
- 3) Adopt as a provision in both the zoning and subdivision ordinances that an environmental report be prepared and certified by a qualified engineer for all development proposals in areas having natural physical hazards and/or limitations. As part of the environmental report, the engineer shall identify the intensity of urban development to be permitted based upon the carrying capacity of the land. Open space may be required within the development in order to protect the public health and safety;
- 4) Permanent structural improvements will not be permitted in areas delineated as being located within the floodway of the 100 year flood plain as indicated from flood plain surface elevations provided by the U.S. Army Corps of Engineers;
- 5) The development of areas delineated as being within the 100 year flood plain as indicated from flood plain surface elevations provided in the most current Washington County, Oregon - U.S. Army Corps of Engineers information shall be limited to appropriate open space uses;
- 6) Fill and compensatory excavation of the flood plain shall be used only as a final design solution for development adjacent to the floodway. Developers shall be required to spell out how development alternatives were evaluated and conclusions were made;

Natural Resources & Natural Hazards

Goals & Policies

- 7) Cluster development to accommodate needed housing while preserving larger blocks of forest land and open space. (Arbor Day Foundation, Tree City USA Bulletin No. 63);
- 8) Establish landslide mitigation measures including logging regulations on steep slopes, landscape requirements, drainage controls, and pre-development technical studies;
- 9) Minimize the risk of loss of life and damage to property from wildfires within the City and the urban growth boundary;
- 10) Collaborate with local agencies to evaluate the local risk of wildland-urban interface fires;
- 11) Collect data related to fuel locals and mapping vulnerable areas Prepare landscaping regulations to improve fire resistance;
- 12) Adopt adequate roadway requirements to assure response by fire protection agencies;
- 13) Amend development standards in areas with potential landslide hazard to minimize potential landslides while allowing appropriate development;
- 14) Evaluate the need for seismic retrofit improvements to existing buildings in the Town Center to minimize potential damage where feasible;
- 15) Land use controls and project reviews will be used to determine and regulate the impact of development on water quality; and
- 16) Transportation Plan objectives and alternatives that encourage and provide for increased bicycle and mass transit ridership shall be adopted.

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Chapter 10

Urbanization

Introduction

How we as a state manage growth distinguishes Oregon from other states. Given the importance of agriculture to the Oregon economy the issue of urbanization is of critical importance for the State of Oregon. Saving farms and forest lands goes hand in hand with how we manage the way our towns and cities grow. The Oregon Land Use Act, approved by the Oregon Legislature in 1973, requires that each metropolitan area and many cities adopt urban growth boundaries, or UGBs, around cities and metropolitan areas. The UGBs are intended to protect farming and forestry land from development pressure. An urban growth boundary must include a 20-year supply of land for future urban development.

Over the past 40 years urban growth boundaries, throughout the state, have helped to protect high value farmland from development and limit the urban sprawl that is typical of many metropolitan areas throughout the country. The landscape around Forest Grove would likely be very different than what we experience today if prior generations did not have the foresight to continue protecting our agricultural heritage and promote land efficient development patterns within urban growth boundaries.

Although the conservation of agricultural resources outside of the urban growth boundary is critical to good planning, how land is used within the urban growth boundary is just as important – or perhaps more so. The use of land within the urban growth boundary determines the sustainability of our community and impacts our overall quality of life. This element of the Forest Grove Comprehensive Plan provides the framework to continue the legacy of good land management established back in the 1970s and reflected in the 1980 Forest Grove Comprehensive Plan. To be effective, this element of the comprehensive plan must be used in conjunction with the other elements comprehensive plan, especially the Land Use and Public Facilities elements.

With the population of Forest Grove expected to increase by over 7,300 residents during the next twenty years, some of what is now vacant or agricultural land will no doubt convert to commercial, industrial, institutional or recreational uses. The amount of land needed for these activities depends on several factors. Such factors include population and employment growth and the rules applied to development including subdivision, zoning and transportation requirements. Another factor is the future demand for new houses. Future housing demand is described in great detail in the Forest Grove Economic Opportunity Analysis prepared to support this plan. The type of housing desired by current and future residents of Forest Grove is critical to the future urbanization of the City. The City has the ability to influence these factors by planning and zoning land for needed housing and employment. This element of the comprehensive plan includes goals and policies outlining how the city will influence future urbanization within the Forest Grove planning area.

Urbanization

In addition, to local goals and policies, policies have been developed at the regional and state levels of government to guide the ongoing urbanization of communities. Local goals and policies must be consistent with regional and state policies. These policies are described more fully below.

Urbanization Policies

Statewide Land Use Planning Goal 14 (Oregon Administrative Rule 660-015)

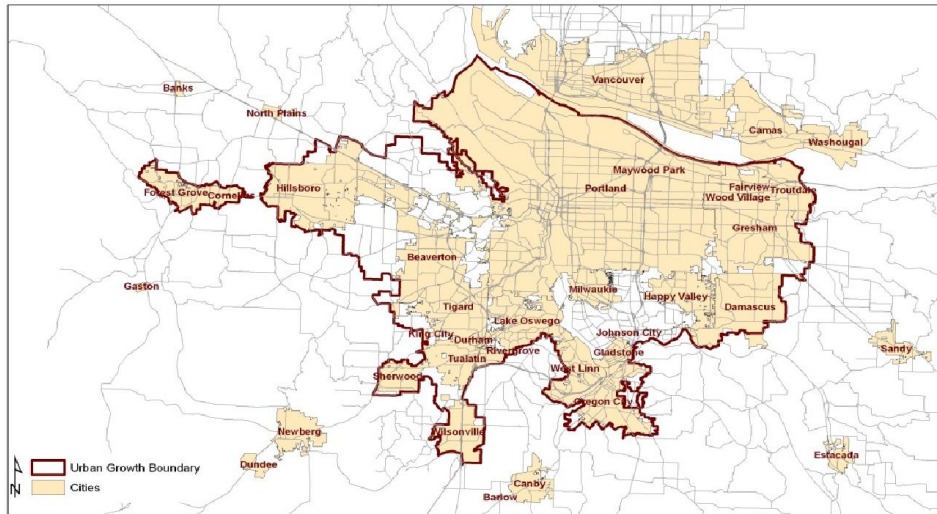
Goal 14 is the primary policy guiding the urbanization of communities throughout Oregon. Under state law, local comprehensive plans must be consistent with Goal 14. Objectives of Goal 14 include:

- Provide for an orderly and efficient transition from rural to urban land use;
- Accommodate urban population and employment inside the urban growth boundary;
- Ensure the efficient use of land; and
- Provide for livable communities.

The urban growth boundary is the primary tool used to achieve the objectives of Goal 14. Under Goal 14, land within an urban growth boundary is considered available for urban development consistent with plans for the provision of urban facilities and services. The comprehensive plan and implementing measures such as the development code are the primary means for managing the use and division of land and to maintain the land's potential for planned urban development until such time public facilities and services are available.

Within the Portland region, Metro has the responsibility to administer the urban growth boundary including the portion of the boundary around Forest Grove and Cornelius. This means the Metro Council, with input from various advisory committees, determines where expansion of the urban growth boundary will occur. Metro evaluates the urban growth boundary every five years based on regional needs. Although the needs of individual communities may be considered by regional policy makers, regional needs will take precedence when changes are made to the urban growth boundary. Under this framework, there may come a time when the supply of developable land may be insufficient to meet future needs. This underscores the need to use land efficiently as the local supply may be constrained in the future while land is added to the urban growth boundary elsewhere in the region.

Portland Regional Urban Growth Boundary



Source: Metro, Regional Land Information System (RLIS)

Metro Regional Framework Plan

Metro Urban Growth Management Functional Plan

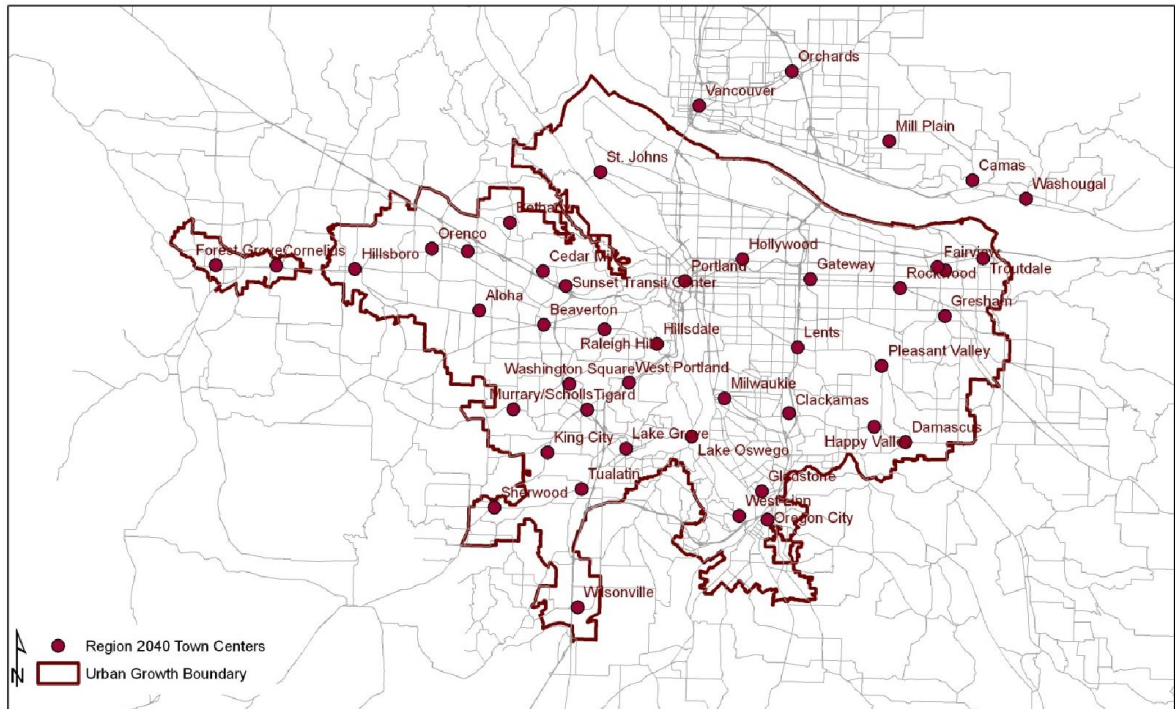
The Metro Regional Framework Plan and Urban Growth Management Functional Plan both address urbanization as well. The Framework and Functional Plans primarily address land development within the urban growth boundary. The Regional Framework Plan is divided into chapters called Titles. Title 11 of the Urban Growth Management Functional Plan establishes requirements for planning of new urban areas including designated urban reserve areas. The purpose of Title 11 is to ensure that areas brought into the urban growth boundary are developed efficiently and become mixed-use, walkable, transit friendly communities. Title 11 also provides interim protection for areas added to the urban growth boundary until such time the land is needed for urban development.

Chapter 1 of the Metro Regional Framework Plan addresses the urban/rural transition and urban growth boundary amendments. With respect to the urban/rural transition it is the policy of the Metro Council to base the priority for inclusion of land within an urban reserve area generally upon the factors of Statewide Planning Goal 14. These factors include:

1. Efficient accommodation of identified land needs;
2. Orderly and economic provision of public facilities and services;
3. Comparative economic, energy, economic and social consequences; and
4. Compatibility of the proposed uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

In 1995 the Metro regional government adopted the Region 2040 Growth Concept. The Region 2040 concept established an urban form for the Portland region. The hierarchy includes the Portland Central City, Regional Centers, Town Centers, Main Streets, Corridors, Transit Station Communities and Neighborhoods. Downtown Hillsboro is the closest Regional Center to Forest Grove. Nearby Town Centers include downtown Forest Grove and central Cornelius. The Pacific Avenue/Tualatin Valley Highway corridor is a designated corridor for planning purposes in the Region 2040 concept. Under the Region 2040 concept corridors are not intended to as densely developed as Town Centers. Corridors should provide enough concentration of activity to support high quality transit service.

Region 2040 Land Use Concept: Town Centers



Source: Metro, Regional Land Information System (RLIS)

Urban Planning Area Agreement

In addition, to state and regional requirements, urbanization is also addressed at the county and city levels of government. Coordination of urbanization between Forest Grove and Washington County is handled through an urban planning area agreement (UPAA). The UPAA was executed between Washington County and the City of Forest Grove in 1988. The agreement establishes roles and responsibilities for planning and land use management within the Forest Grove planning area. Under the UPAA, planning responsibilities related to urbanization include:

- Implementing an on-going citizen involvement program in conjunction with the comprehensive planning process for the City;
- Providing comprehensive and transportation planning for the incorporated and unincorporated areas within the Forest Grove planning area;
- Serving urban development with adequate urban services including sewer, water, storm drainage, streets, and police and fire protection;
- Monitoring and regulating the conversion of vacant and agricultural land to urban uses through the extension of water and sewer service, land partitioning requirements and annexations within the urban planning area; and
- Ensuring that unincorporated urbanizable land is not converted to urban development prior to annexation to the City.

Annexation

State law, the Metro Code, and Forest Grove development code outline how annexation to the City occurs. As indicated by the UPAA annexation is an important tool to guide urbanization since urban development within the Forest Grove planning area cannot occur until land is annexed into the city and provided with public infrastructure.

There are several ways property is annexed into the City. A property owner or group of property owners can petition the City Council to annex into the City. To succeed a majority of property owners and registered voters must agree to the annexation. Property may also be annexed into the City when unincorporated land is surrounded by the city limits. In this situation, the City Council may initiate the annexation process.

Once annexed into the City the zoning of the property is changed from the Washington County zoning designation to a City zoning designation. Most often this City zoning designation that is applied to the property is the designation that most closely matches the Comprehensive Plan land use map. A property owner may request a different zoning designation. This will require an amendment to the Comprehensive Plan map. The criteria for a Comprehensive Plan map amendment must be met for approval.

A considerable amount of land exists within the urban growth boundary that could become available for future urban development in Forest Grove. Most of this land is currently zoned by Washington County as FD-10 (Future Development – 10 acre minimum lot size). The FD-10 zone is intended to be a holding zone allowing for the continuation of existing uses until the property is annexed into the City. After annexation the property is eligible for development at urban density provided urban services can be provided to the site.

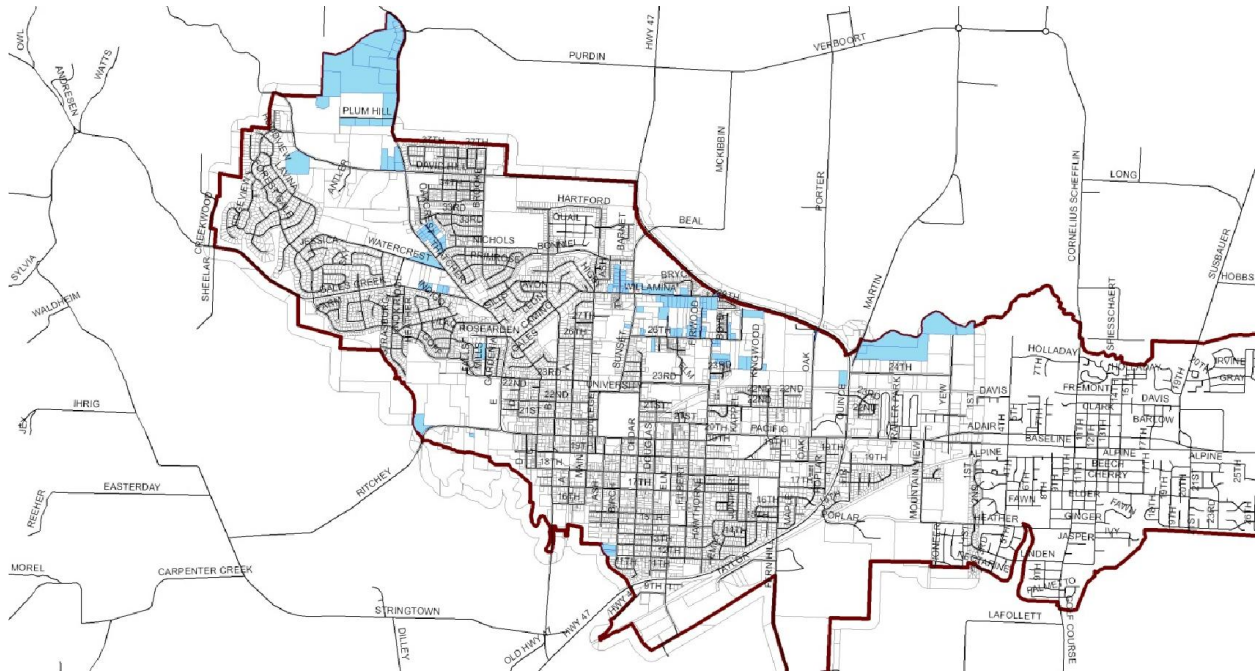
The Forest Grove Zoning map shows the location of property zoned FD-10. There are approximately 228 acres of land within the Forest Grove's planning area zoned FD-10. Of this amount approximately 156 acres are designated for residential development. Much of this land is located north of David Hill Road and west of Thatcher Road and near the Willamina Avenue area. If developed, these properties could accommodate approximately 1,060 dwelling units.

Estimated Dwelling Capacity Unincorporated Lands

Plan Designation	Net Acres	Target Density	Potential Dwellings
Suburban Residential	43.3	1.0	43
C-Low	77.9	4.35	339
B-Standard	23	6.22	143
B-C	12.5	5.29	66
Residential Multifamily Low	26.4	12.0	317
Residential Multifamily High	7.8	20.28	158
Total Dwellings			1,066

Source: City of Forest Grove, Planning Division

Unincorporated Land Forest Grove Planning Area

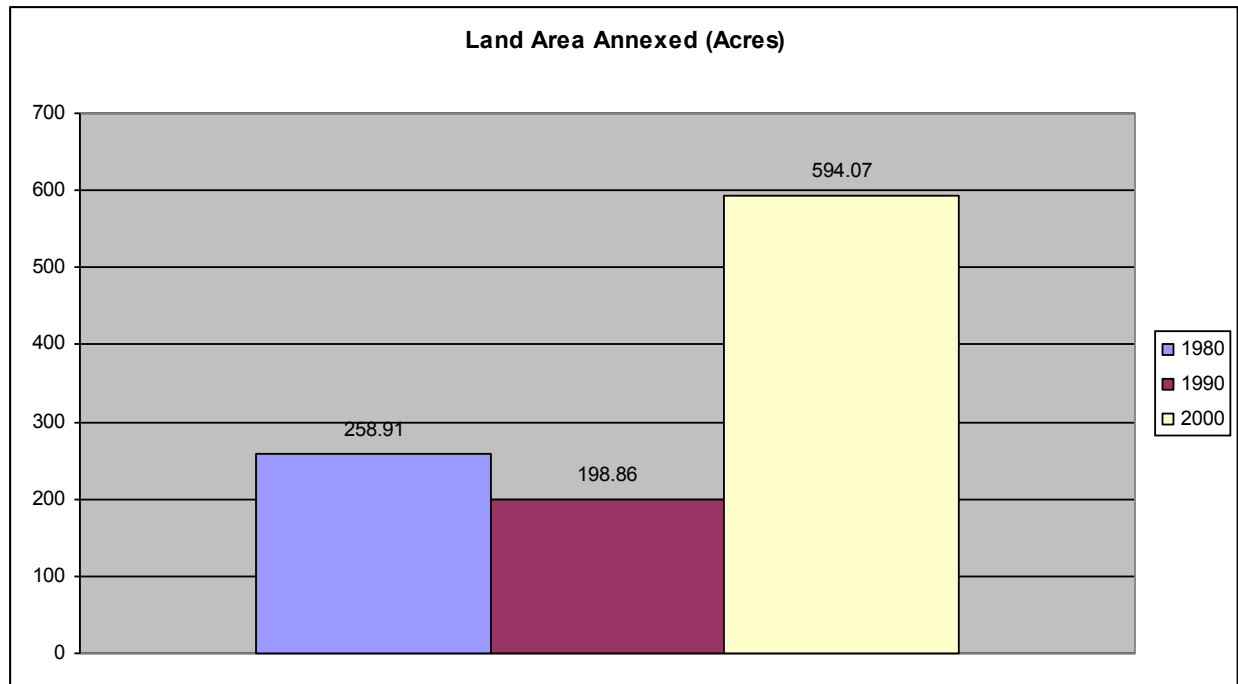


Source: Metro, Regional Land Information System (RLIS)

In 1980 the City of Forest Grove occupied approximately 2,750 acres of land or approximately 4.3 square miles. Today Forest Grove occupies over 3,700 acres or approximately 5.8 square miles. This suggests the land area within the City of Forest Grove increased by approximately 35% since 1980.

Since 1980, there have been 65 annexations into the City. The annexations added approximately 1,050 acres into the City. This represents about 28% of the City's current land area of 3,740 acres.

The chart below shows the amount of land annexed into the City of Forest for each decade since 1980. The decade of 2000 to 2010 has the most annexation activity during this time period.



Source: Metro, Regional Land Information System (RLIS)

The largest annexation occurred in 2006. During 2006 the City provided incentives for the annexation of unincorporated land surrounded by the City. As a result, over 300 acres of land was annexed. Approximately 75 acres of unincorporated land surrounded by the City remains within the City's planning area.

Urban Reserves

Urban and rural reserves designated to provide more certainty in the urban growth boundary expansion process. Urban reserves are intended to meet demand for urban development over the next twenty to fifty years. Urban reserves will be looked at first when the urban growth boundary is expanded.

State law (OAR 660-27-0050) identifies several factors that must be considered for designation of land as urban reserves. These factors include:

- A. Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments;*
- B. Includes sufficient development capacity to support a healthy economy;*
- C. Can be efficiently and cost-effectively served with public school and other urban-level public facilities and services by appropriate and financially capable service providers;*
- D. Can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers;*
- E. Can be designed to preserve and enhance natural ecological systems;*
- F. Includes sufficient land suitable for a range of housing types;*

G. Can be developed in a way that preserves important natural landscape features included in urban reserves; and

H. Can be designed to avoid or minimize adverse effects on farm and forest practices and on important landscape features on nearby resource land, including land designated as rural reserves

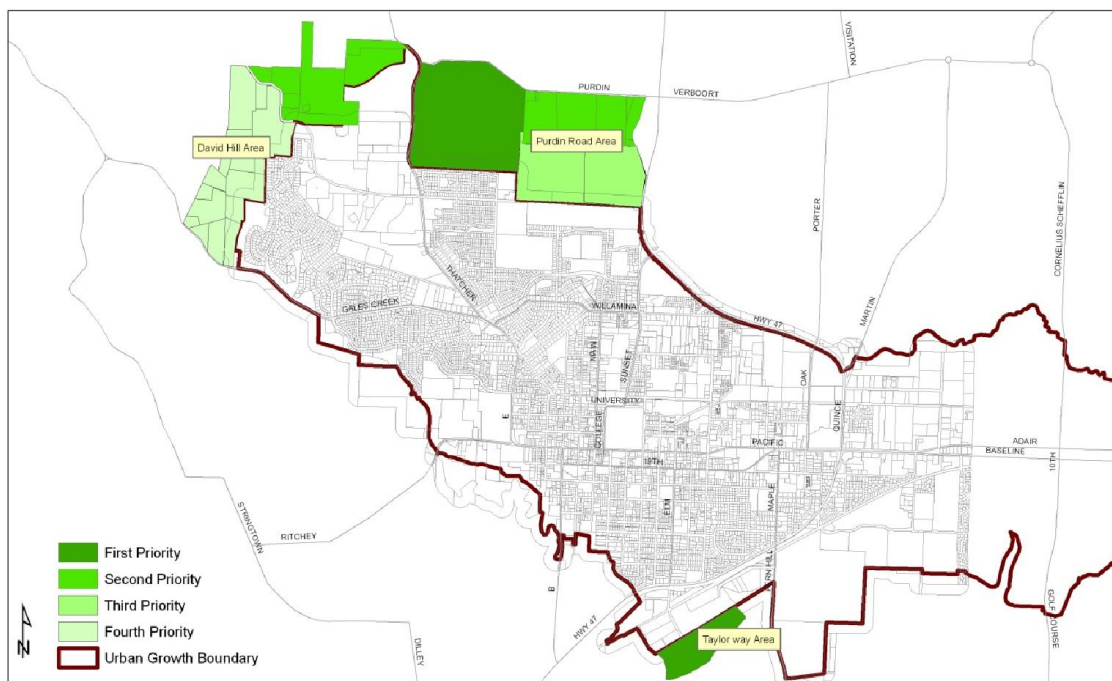
Based on consideration of the factors identified above, Forest Grove has three urban reserve areas: 7A: David Hill, 7B: Purdin Road, and 7E: Taylor Way. The David Hill urban reserve area is intended to be primarily residential with some retail nearby. The Purdin Road and Taylor Way urban reserve areas are intended to serve employment needs. In particular, the Purdin Road urban reserve is intended to serve large lot (greater than 50 acre sites) industrial land needs.

The designated urban reserve areas will support Forest Grove's aspirations and continued evolution as a complete community. The potential candidate urban reserve areas will provide for long-term housing needs and employment opportunities for Forest Grove residents. In addition, the urban reserve areas will help the community meet the long-term housing and employment needs identified in the City of Forest Grove Economic Opportunity and Housing Analysis completed in 2009. Furthermore, the City's vision for employment will complement western-Washington County sub-regional aspirations including promoting high technology and green sector industries. Furthermore, land within the potential candidate urban reserve areas will directly address the City's lack of larger industrial sites which hampers long-term economic development efforts.

In addition to providing housing and employment opportunities, the urban reserve areas will also significantly increase the amount of open space and parkland serving the community. The concept plan developed by the City identifies vegetated corridors and sets-aside the corridors for protection from urban development. Current city and Clean Water Services requirements will assure these aspirations will be met.

Rural reserves are intended to remain in agricultural or forest use for at least the next fifty years. Much of the land surrounding Forest Grove is in rural reserve including the west of Martin Road and north of Highway 47 and Council Creek.

Urban Reserve Areas



Source: City of Forest Grove, Planning Division

Estimated Urban Reserve Acreage

Urban Reserve	Gross Acres
Purdin Road Area	476.6
David Hill Area	328.9
Taylor Way Area	53.7
TOTAL	859.2

Source: City of Forest Grove, Planning Division

Findings

The following data summarizes current conditions and long range projections for housing and population. This data provides the basis for assessing urban land needs and future urbanization within the Forest Grove planning area.

1. Year 2010 population for the City of Forest Grove: 21,083
2. Year 2030 population for the urban growth area: 27,360
3. Estimated 2009 Households: 7,419 (Economic Opportunity Analysis)
4. Estimated 2010 Households: 7,492 (Metro)

5. Estimated 2030 Households: 10,096 (Metro)
6. Estimated 2030 Household Allocation (Forest Grove Planning Area): 2,496
7. Estimated 2035 Household Allocation (Forest Grove Planning Area): 3,120
6. Estimated 2035 Total Households: 10,379
7. Estimated 2035 Population: 28,127
6. Average household size to from 2.53 (1980) to 2.71 (2010)
7. Overall Housing Density Target (8 dwelling units per acre)
8. Estimated Residential Housing Capacity within Planning Area:

Housing Type	Capacity Estimate
Single Family Residential	2,857
Multi-Family/Mixed-Use Residential	1,993
TOTAL	4,850 (Metro)

Source: Metro

Estimated Residential Housing Capacity Forest Grove Planning Area

Comprehensive Plan Designation

Comprehensive Plan Designation	Target Density	Gross Acres	Net Buildable Acres	Estimated Housing Capacity
A-Medium Single Family Residential	8.71	56.6	40.2	350
B-Standard Single Family Residential	6.22	177.8	104.24	688
C-Low Single Family Residential	4.35	150.5	120.0	955
RML Multifamily (Low) Residential	12.0	38.2	29.9	646
RMH Multifamily (High) Residential	20.28	83.26	69.55	1,526
Community Commercial	20.28 (Max)	31.0	28.8	292
Town Center Core	20.28 (Max)	6.62		45
Town Center Support	20.28 (Max)	23.13		41
Town Center Transition	20.28 (Max)	8.85		46
TOTAL		575.96	479.3	4,589

Source: City of Forest Grove, Planning Division

9. Estimated Growth Allocation 2030 and 2035 (Traffic Analysis Zone)

TAZ	2010 Households	2035 Total	2035 Allocation	2030 Total	2030 Allocation
1393	15	468	453	374	362
1396	649	1,095	446	876	357
1397	543	776	233	621	186
1398	307	472	165	378	132
1399	672	812	140	650	112
1400	829	1,013	184	810	147
1401	953	1,396	443	1,117	354
1402	694	1,001	307	801	246
1403	432	456	24	365	19
1404	527	539	12	431	10
1405	1	3	2	2	2
1406	792	824	32	659	26
1407	946	1,625	679	1,300	543
1408	1	1	0	0	0
TOTAL	7,361	10,481	3,120	8,384	2,496
POP	21,083	28,404	8,455	22,721	6,764
CAP	4,700	33,820			

Source: Metro

10. Year 2030 Household Estimates by Structure Type

Housing Type	Total Dwelling Units	Percentage
Single Family Residential	5,030	60%
Multiple Family Residential	3,354	40%
TOTAL	8,384	100%

Source: Metro

Estimated Land Supply (Buildable Land Inventory - 2010)

Land within Forest Grove Planning Area	3,967 acres
Current Land Area within City (2010)	3,739 acres
Unincorporated Land within Planning Area	228 acres
Urban Reserve Area	859 acres
Vacant, No Development Potential	47.2 acres
Vacant, Development Potential	402.6 acres

Source: City of Forest Grove, Planning Division

20-Year Employment Land Needs Analysis

Projected Aggregate Need for Commercial and Industrial Land

Net Buildable Acres

Use Type	Medium Growth Scenario (EOA) – Acres
Office Commercial	52
Industrial	168
Retail Commercial	101
Total	321

Source: City of Forest Grove, Planning Division

Estimated Land Vacant Supply

Gross Acres

Use Type	Acres
Office	2
Industrial	291
Commercial Retail	101
Total	394

Source: City of Forest Grove, Planning Division

Urbanization Goals

1. Establish policies to ensure an orderly and efficient transition from rural to urban land use.
2. Land shall be made available within the urban growth boundary to meet all local urban land use needs.
3. Implement policies to minimize urban/rural interface conflicts as part of the City's growth management program.
4. Implement policies to create complete neighborhoods in areas undergoing urbanization.
5. Utility services shall be provided incrementally without by-passing large parcels of vacant land to serve peripheral areas.
6. Coordinate growth management policies with local utility providers and governmental agencies.

Urbanization Policies

1. The City's long-term land needs shall be evaluated periodically, and the adequacy of land within the Forest Grove portion of the Portland Regional Urban Growth Boundary to meet those needs shall be evaluated. If necessary, amendments to the Urban Growth Boundary shall be recommended to Metro as part of Metro's urban growth boundary evaluation process.
2. All lands within the urban growth boundary shall be assigned priorities for urban development. Priorities shall be based on the City's ability to provide urban services and the orderly and efficient timing of service extension. These priorities shall be the basis for making decisions on all development proposals and requests for annexation.
3. Provide for an Urban Growth Management Strategy to set forth policies on the urbanization of vacant and agricultural land. The policies should cover the extension of water and sewer service, land partitioning requirements, zoning, and annexations within the urban growth boundary. The strategy shall provide for the orderly and cost-efficient accommodation of anticipated urban growth for the next 10 years.
4. Trunk lines for utilities shall be extended only to service areas which are adjacent to existing development.
5. Sewer and water utilities shall not be extended beyond the City's corporate limits and shall be provided only after annexation. The City Council may permit extension of utilities to existing dwellings outside the urban growth boundary only when there are demonstrated problems with water quality or quantity or when a demonstrated health hazard exists due to sanitary sewer drain field failures.

Urbanization

Goals & Policies

6. Participate with Metro in the ongoing review of the Portland regional urban growth boundary and the periodic update of the Metro Urban Growth Report.
7. Monitor development trends in the Forest Grove planning area to ensure that Forest Grove has a twenty year supply of land for local residential, commercial, small industrial and large lot industrial development, and institutional needs.
8. The City of Forest Grove will advocate for adding urban reserve lands into the urban growth boundary to meet the City's long term urban development needs.
9. The City of Forest Grove will work collaboratively with property owners and governmental partners to prepare concept plans for urban reserve areas consistent with Title 11 of the Metro Urban Growth Management Functional Plan.
10. The City of Forest Grove will continue to promote the efficient use of land within the Forest Grove Town Center and any areas designated as transit station communities on the Forest Grove Comprehensive Plan land use map.
11. The City will monitor housing development trends to ensure that Forest Grove complies with the Metropolitan Housing rule requirement for a minimum average density of eight units per acre of land.
12. Promote the efficient delivery of public services through annexation of land into the City of Forest Grove.
13. The City will avoid approving annexations that create unincorporated islands within the Forest Grove planning area.
14. Coordinate the provision of public services needed for urbanization with the Forest Grove School District, Washington County Clean Water Services and other public agencies and private service providers as appropriate.

Implementation

To ensure that the intent of the goals and policies set forth within this plan element are achieved, the City of Forest Grove shall maintain and update when needed an Urban Planning Area Agreement with Washington County. with a site-specific planning area map in cooperation with Washington County, designating that area within the UGB which the City requests to be an active participant in all land use and development actions by the County. To program for the phased conversion of vacant, agricultural and forest land, the City shall adopt an urban growth management strategy within its urban planning area agreement.

Key Terms

Goal 14 –_The Oregon Land Use Planning goal addressing urbanization. The goal establishes a framework for the transition of land from farm and forest use to urban activities.

Urbanization – The conversion of farm and forest land for urban development including land required for needed housing, employment, commercial activities and public/semi-public services.

Urban Growth Boundary – An imaginary line separating farm and forest land from land available to meet 20-year urban development needs.

Urban Reserves – Land outside of urban growth boundaries identified as being suitable for very long term (up to 50 years) urban development needs. Urban reserves are given priority for addition to the urban growth boundary.

Urban Planning Area Agreement – The agreement between the City of Forest Grove and Washington County outlining City and County responsibilities related to land use planning affecting unincorporated lands within the urban growth boundary and urban reserve lands adjacent to the Forest Grove City limits.

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Chapter 11

Transportation

Introduction

The Transportation Element of the Forest Grove Comprehensive Plan provides a framework for a safe, convenient, and cost-effective transportation system serving Forest Grove. In addition, this element provides a necessary and critical link between transportation and land use.

How well the transportation system functions is critical for the continued vitality of our community. In this context, the term “transportation” is intentionally broad and includes road and highway travel, walking, bicycling, freight movement by rail, conveyance of materials via pipeline and air travel.

Under Oregon administrative rule, transportation planning is divided into two distinct phases: transportation system planning and transportation project development. Transportation system planning establishes a network of facilities and services to meet the overall transportation needs of the community. This system includes the network of roads, rail, sidewalks, pedestrian pathways and trails, transit routes, pipeline conveyance systems and airports. In addition, this system includes safety control devices such as traffic signals, traffic calming devices,

Transportation project development implements the TSP by determining the precise location, alignment, and preliminary design of improvements included in the local transportation system plan. This element of the comprehensive plan focuses on the first phase: transportation system planning.

Legal Framework⁴⁶

The legal framework for transportation planning generally results from:

- Oregon Statewide Planning Goal 12: Transportation;
- Oregon Administrative Rule (Chapter 660, Division 12): “Transportation Planning Rule;”
- Oregon Highway Plan;
- Regional Transportation Plan;
- Regional Transportation Functional Plan;

⁴⁶ Under state law, cities are required to adopt the local transportation system plan as part of the comprehensive plan. In addition, transportation financing programs required by OAR 660-012-0040 may be adopted as a supporting document to the comprehensive plan. OAR 660-012-0015(4). The Forest Grove Transportation System Plan and financing program, as may be amended from time-to-time, are hereby incorporated into this comprehensive plan by reference.

Transportation

- County Transportation System Plan; and
- Local Transportation System Plan

Partners

Agencies involved in transportation planning and implementation of projects in Forest Grove include:

- City of Forest Grove;
- Oregon Department of Transportation;
- Washington County Land Use and Transportation;
- Metro;
- Tri-Met;
- Ride Connection; and
- Provides providers of transportation services including shuttle operators.

Guiding Principles

The following guiding principles serve as the framework for the Transportation Chapter of the Forest Grove Comprehensive Plan:

- A. Promote the development of a transportation system adequate to serve local, regional and statewide needs;
- B. Recognize the mobility needs of all persons using the transportation system including the transportation disadvantaged;
- C. Encourage and support the availability of a variety of transportation choices for moving people and freight including walking, bicycling, and transit;
- D. Avoid principal reliance upon any one mode of transportation or one transportation corridor;
- E. Provide for safe and convenient vehicular, transit, pedestrian and bicycle access and circulation;
- F. Protect existing and planned transportation facilities, corridors and sites for their intended functions;
- G. Ensure coordination among affected agencies involved in transportation issues including state, county and regional partners;
- H. Balance through traffic on the state highway system with local need for access to existing and future businesses served by the transportation network;
- I. Implement a sustainable transportation system that recognizes the needs of people, minimizes the impact to the environment and is cost-effective to construct and maintain;
- J. The transportation system shall minimize conflicts and facilitate connections between modes of transportation; and
- K. The transportation system shall avoid principal reliance on any one mode of transportation by increasing transportation choices and reducing reliance on the automobile.

Vision

The Transportation Element of the comprehensive plan envisions a balanced transportation system serving the needs of residents, businesses and visitors. The physical elements of the system will be constructed in a cost-effective and sustainable manner to reduce impacts on natural resources. A balanced transportation system is one that provides choice and connectivity. Choice in terms of how we get to where we need to go and connectivity in terms of linking people as we pursue day-to-day activities.

Overview of the Forest Grove Transportation System

Street Network

There are approximately 77.6 miles of roadway within the City of Forest Grove.

The street network includes Oregon Highway 8 (Tualatin Valley Highway), Oregon Highway 47 (Nehalem Highway) and county arterials and collectors, city arterial, collectors, local/neighborhood streets.

The figure below shows how streets are classified in Forest Grove. The Forest Grove Transportation System Plan and Article 8 of the Forest Grove Development Code (Public Improvements) include design standards for each classification. Design standards describe roadway, bicycle, and sidewalk widths and required right-of-way. The design standards are based on generally accepted engineering practices for type of facility and design necessary to accommodate the expected number of vehicles, bicycles, and pedestrians.

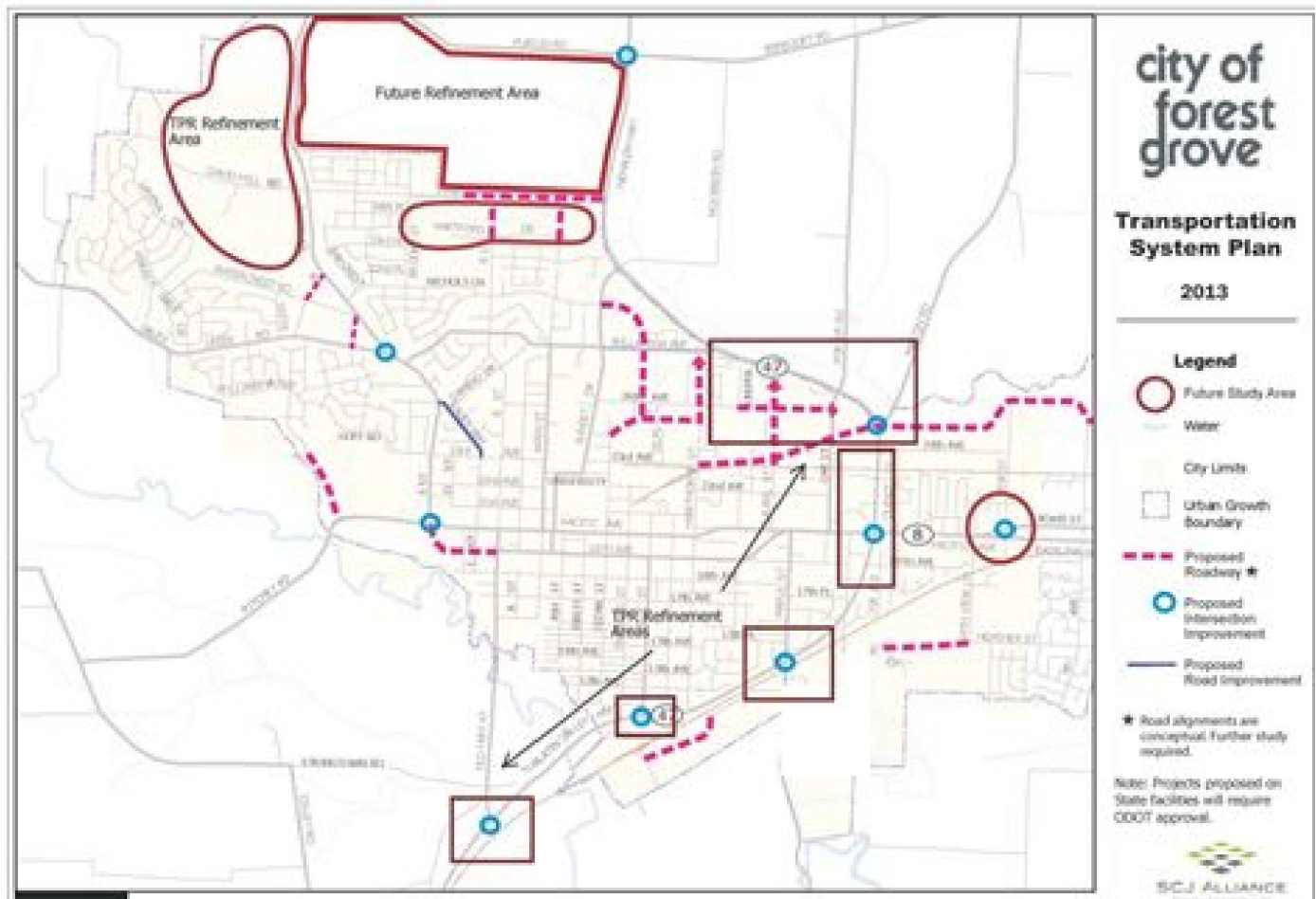
Transportation System Plan Functional Classifications



Source: City of Forest Grove, Transportation System Plan Update (2013)

The figure below shows the preferred road system needed to serve expected population and employment growth over the twenty-year planning period addressed by the Comprehensive Plan.

Transportation System Plan Preferred Roadway Network



Source: City of Forest Grove, Transportation System Plan Update (2013)

The details of the preferred roadway network plan are contained in the Forest Grove Transportation System Plan. TPR refinement areas are areas that require further study and assessment under the Oregon Transportation Planning Rule. The TPR refinement areas generally affect Oregon Highway 47, the developing area of northwest Forest Grove and the Purdin Road Urban Reserve Area north of the urban growth boundary.

Parking

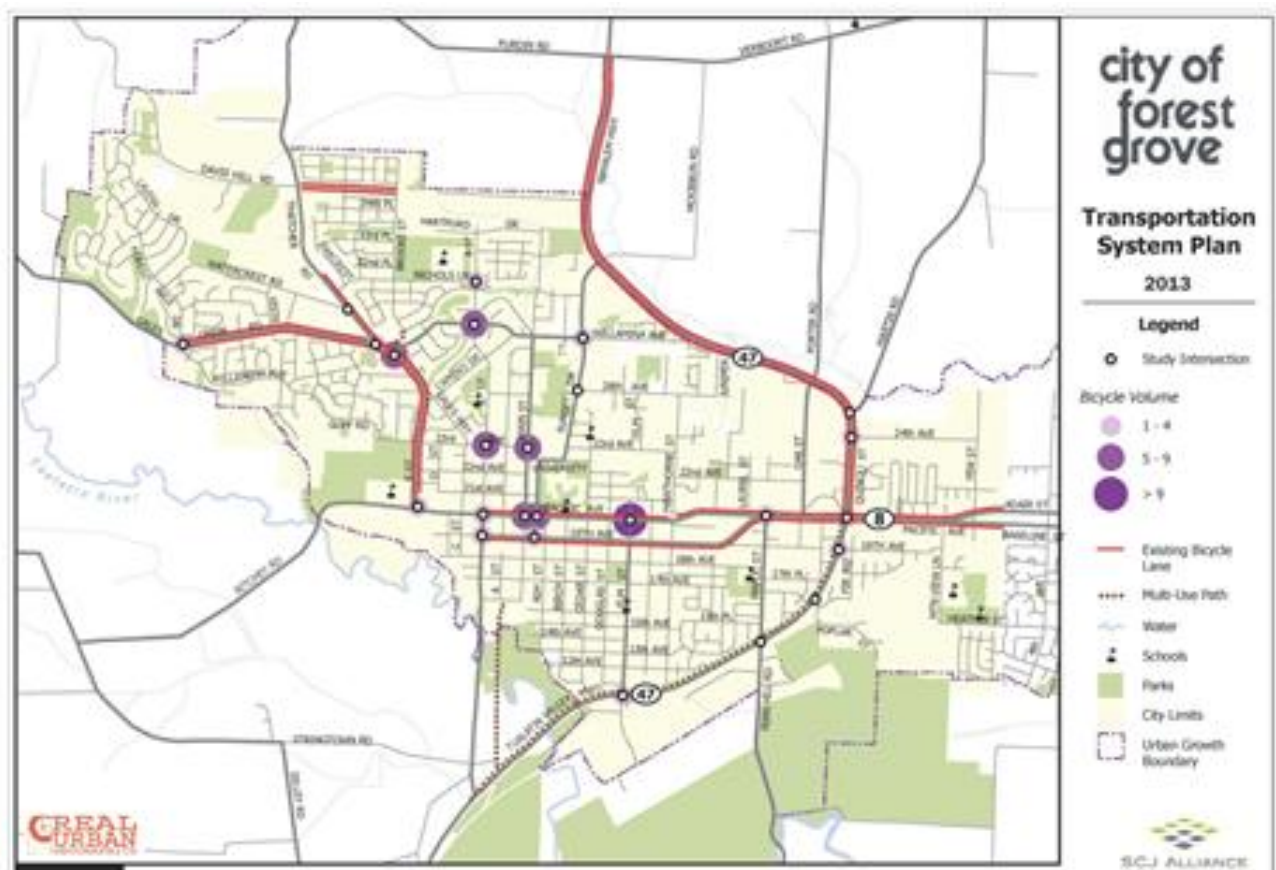
On-street and off-street parking is a part of the transportation network. Parking for automobiles and tracks represents a large percentage of land use within the city. Management of parking is critical to ensure it is being used efficiently. The City of Forest Grove Development Code shall establish standards for parking requirements. Parking standards shall be updated to reflect evolving needs and best management practices. Parking management policies, including pricing and time limits, should be adopted when warranted to maximize use of the parking supply for shoppers and employees within the Town Center.

Bicycle System

As noted in the Transportation System Plan, Forest Grove has the potential to transform itself into one of the region's most bikeable communities. Forest Grove's location near scenic natural areas, farm markets, and other points of interest encourages bicycling - especially bicycle tourism. According to the Metro Active Transportation Plan published in 2013, bicycle tourism and activities generate \$89 million in annual economic activity for the region. A robust bicycle network promotes economic development, community health and commuting options.

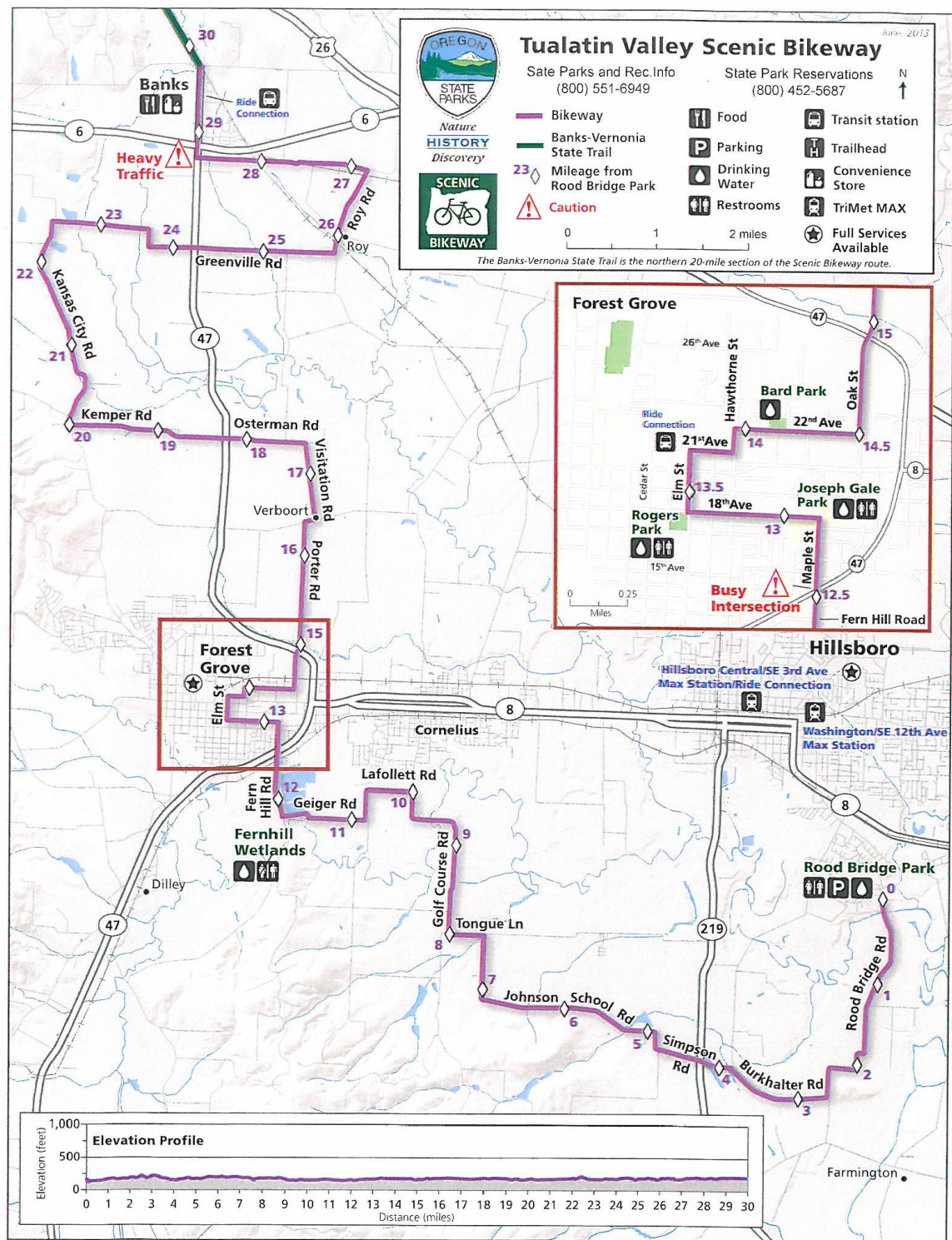
The figure below shows existing bicycle lanes and estimated bicycle volume in Forest Grove. Additional detail is provided in the Forest Grove Transportation System Plan.

Transportation System Plan Current Bicycle System



Source: City of Forest Grove, Transportation System Plan Update (2013)

The map below shows the Tualatin Valley Scenic Bikeway. The route travels through Forest Grove.

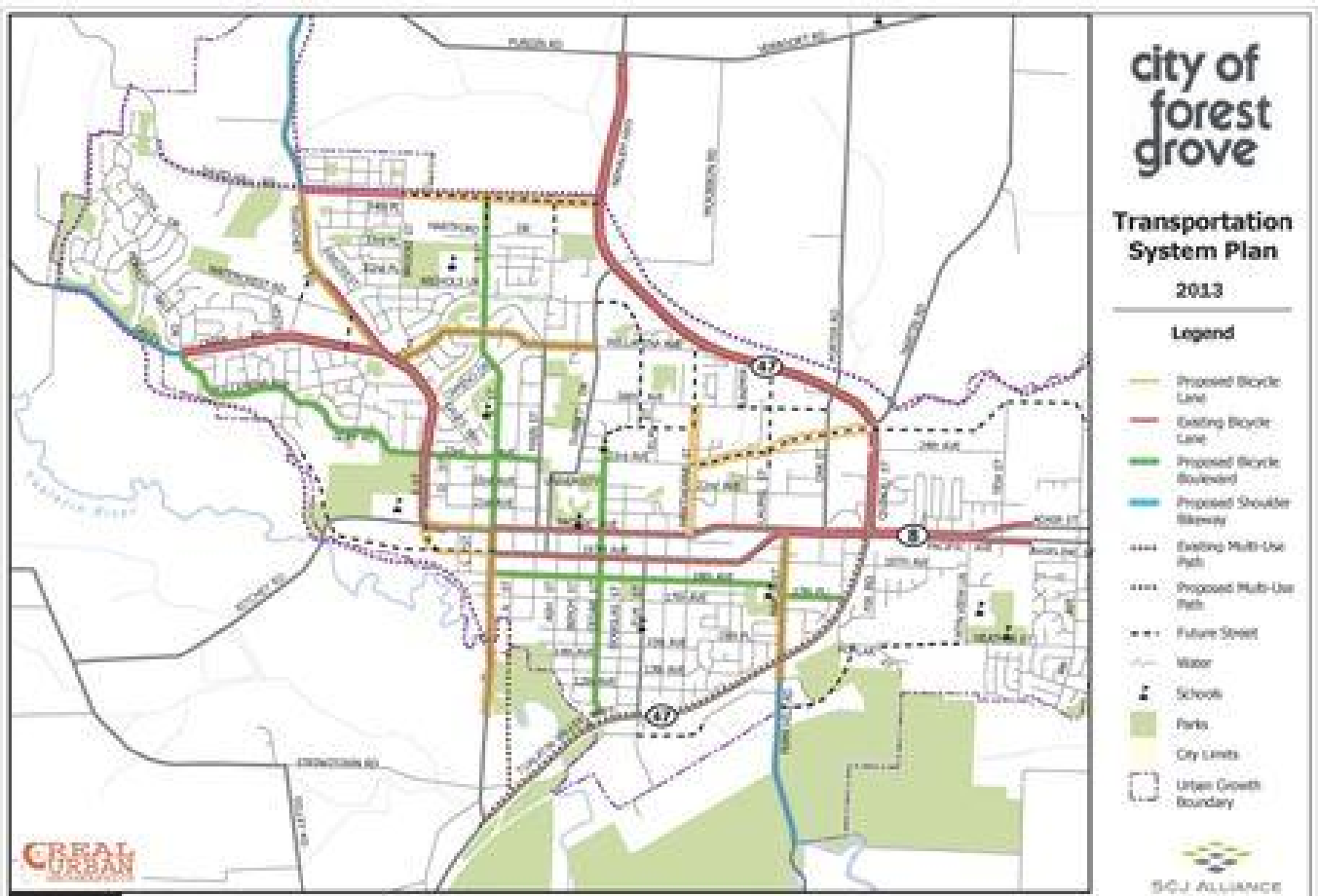


Source: Oregon Parks and Recreation Department

The figure below shows the bicycle network planned identified in the Forest Grove Transportation System Plan. The map shows planned bicycle lanes, bicycle boulevards, and multi-use paths. A bicycle boulevard is a route with physical treatments supporting safe bicycling. Such treatments include signage, pavement markings, intersection improvements, traffic calming, and traffic diversion techniques including traffic circles and traffic diverters.

When built-out the bicycle network will be a complete system providing opportunities for travel within the City and region.

Transportation System Preferred Bicycle Network



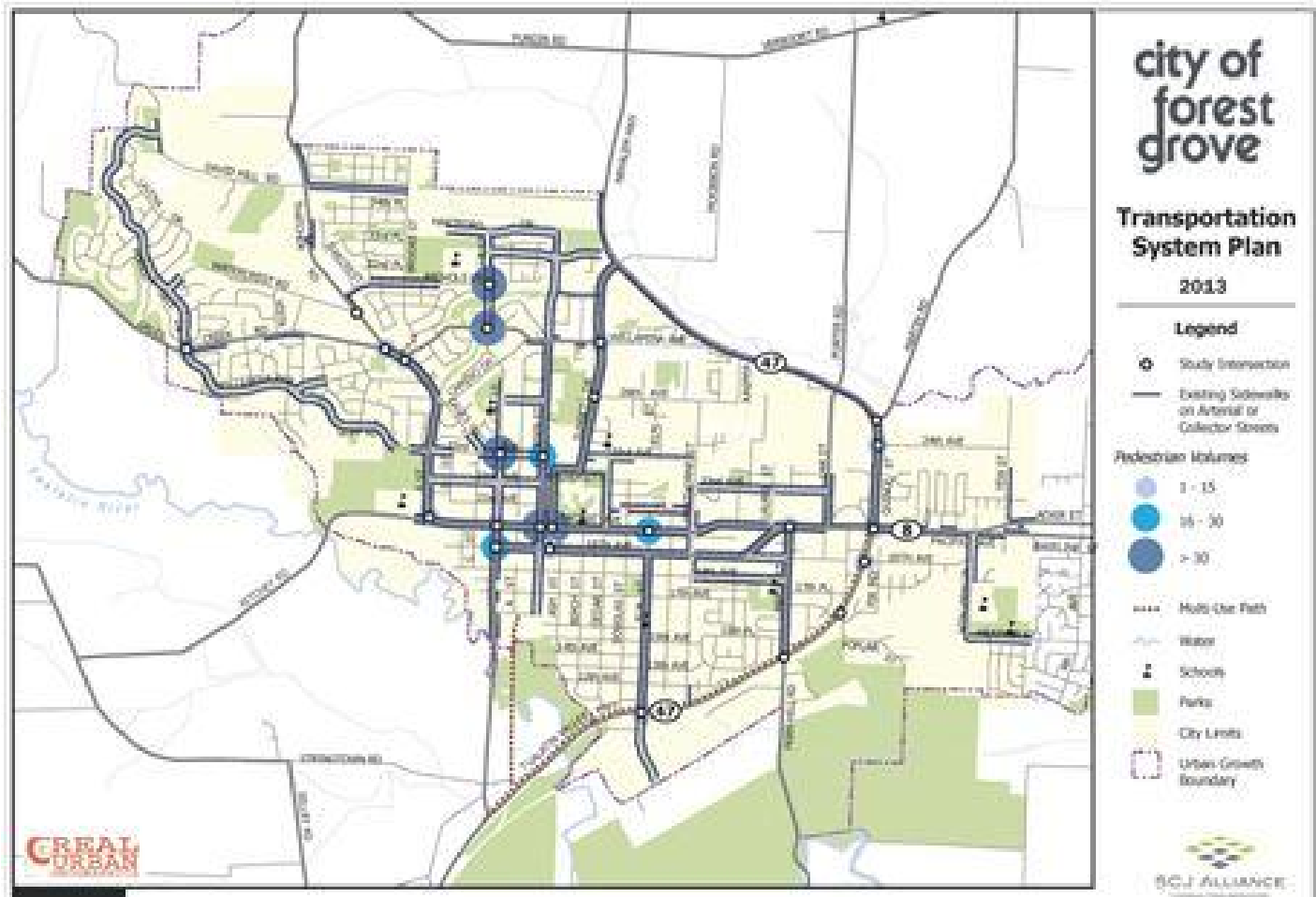
Source: City of Forest Grove, Transportation System Plan Update (2013)

Pedestrian System

Forest Grove benefits from a relatively complete sidewalk system in several areas, including the downtown core, immediate surrounding neighborhoods, and on recently-constructed or reconstructed streets. A City ordinance requires sidewalks to be constructed along new roads and as properties redevelop along existing streets.

The figure below shows the existing pedestrian network:

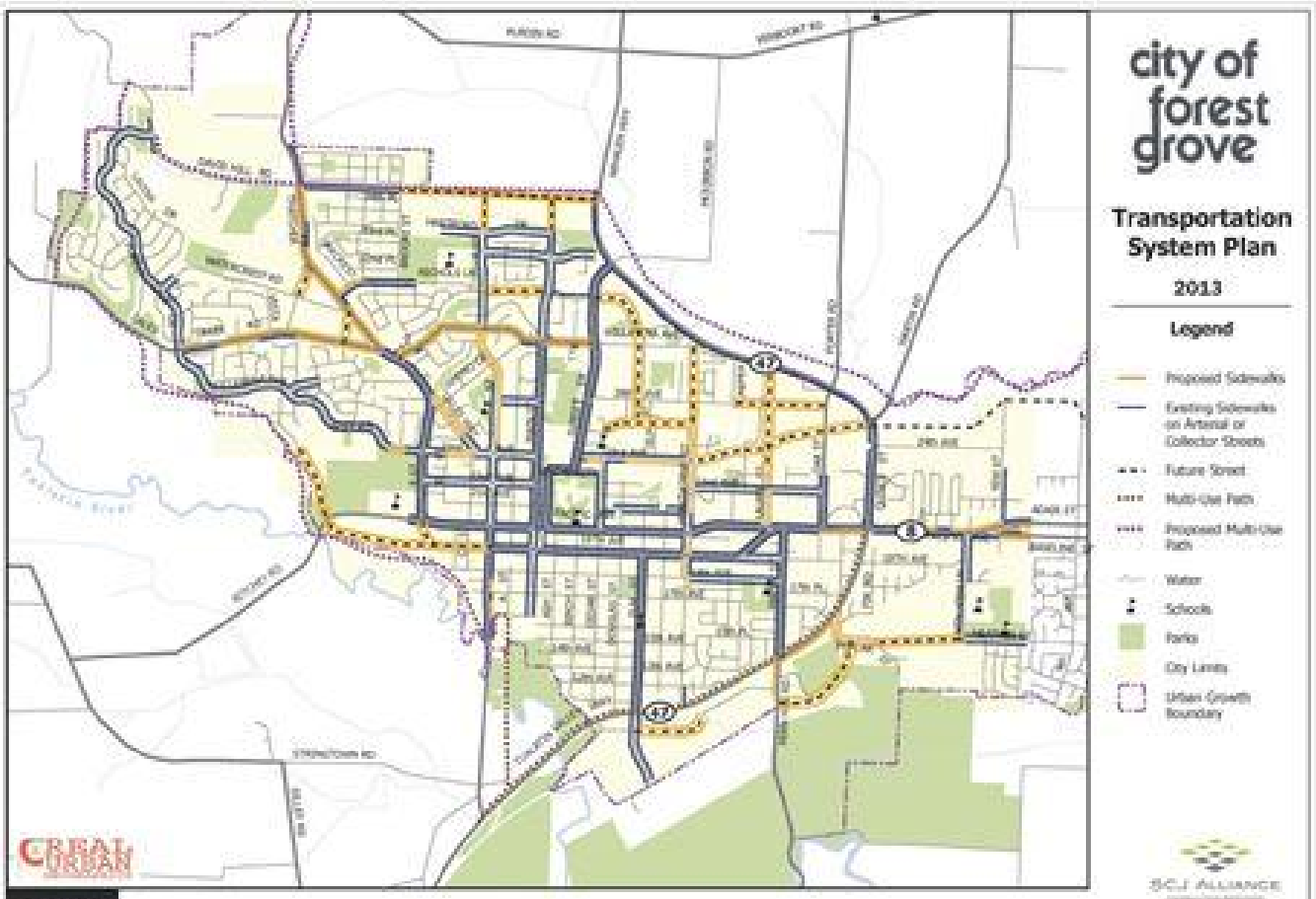
Transportation System Plan Current Pedestrian System



Source: City of Forest Grove, Transportation System Plan Update (2013)

The figure below shows the pedestrian system plan. The pedestrian system plan proposed sidewalks and multi-use paths. A robust pedestrian system encourages physical activity and community health and improves safety for pedestrians including students and the elderly. With the foundations of an excellent pedestrian system in place, Forest Grove has the potential to become one of the region's most walkable communities.

Transportation System Plan Future Pedestrian System



Source: City of Forest Grove, Transportation System Plan Update (2013)

Transit System

Tri-Met

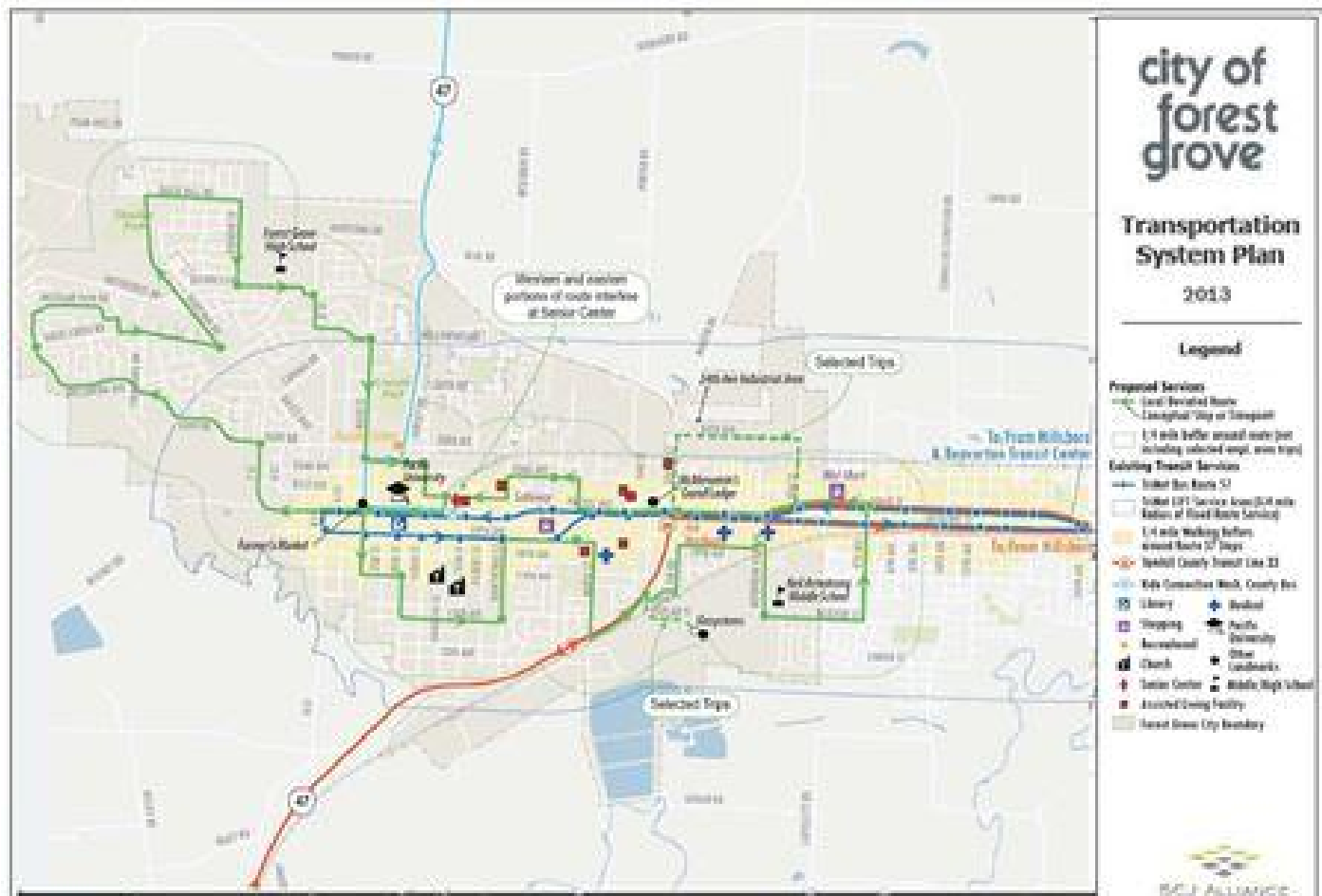
The City of Forest Grove is served by Tri-Met bus line number 57. Line 57 provides high frequency bus service to Cornelius, Hillsboro and Beaverton. Forest Grove does not have direct transit service to downtown Portland. The Forest Grove High School is not served by Tri-Met.

Ride Connection

Ride Connection provides door-to-door transit service to disabled and elderly persons. Ride Connection will pick-up passengers and take them to places of employment, medical and other essential services.

Ride Connection also operates GroveLink – a deviated fixed route system using two fourteen-passenger shuttle vehicles. GroveLink serves two routes in Forest Grove. One route generally serves neighborhoods in western Forest Grove and the Forest Grove High School. The second route serves the eastern part of the community including employment areas along 24th Avenue and Poplar Street. GroveLink also connects with TriMet Line 57. Service began in August 2013.

The figure below shows the area served by Ride Connection as well as TriMet and the Yamhill County Transit system.



Source: City of Forest Grove, Transportation System Plan Update (2013)

Rail Network

Forest Grove is served by two freight rail lines operated by the Portland and Western Railroad Company. The northerly rail line terminates east of Pacific University and continues with a single track to Cornelius and Hillsboro. The southerly rail line provides connections to a lumber mill near Henry Hagg Lake, Cornelius and Hillsboro. Consideration should be given to re-use of railroad corridors if freight service ceases. City policy should encourage keeping existing railroad right-of-way intact for reuse for recreational activities or transit service.

Airports

Forest Grove is served by the Portland International Airport (PDX), located in northeast Portland. Forest Grove is also served by the Hillsboro Airport (HIO), a general aviation corporate airport facility, located on the northern edge of Hillsboro.

Pipelines

The only major pipeline facility that affects the location of future transportation corridors in the Forest Grove area is a high-pressure natural gas feeder line owned and operated by Northwest Natural Gas Company. The feeder line route enters Forest Grove along Porter Road/Oak Street and ends just north of Oregon Highway 8.

Navigable Waterways

There are no navigable waterways within Forest Grove.

Financially Constrained Transportation Plan

Through prior planning work, community involvement, transportation studies, and updates to the City's TSP, numerous transportation improvement projects have been identified to address future needs. These projects are included in the Forest Grove Transportation System Plan. The projects are those that can be reasonably funded with available resources during the 20-year planning period. The projects represent the projects that provide the greatest benefit to the transportation system given available funding resources.

Update of Transportation System Plan

The Transportation System Plan must be reviewed and updated as community needs change, technology advances and best management practices evolve. In addition, the Transportation System Plan must be periodically updated to reflect policy changes at the regional and state levels of government. The TSP must also be consistent with the Metro Regional Transportation Plan and Regional Transportation Functional Plan.

Transportation Goals and Policies

Goal 1 Develop and maintain a balanced transportation system that provides travel choices and reduces the number of trips by single occupant vehicles.

Policy 1.1: Provide a citywide network of safe and convenient walkways and bikeways that are integrated with other transportation modes and regional destinations.

Action 1.1.1: The City will develop new and improved pedestrian routes with ultimate goal of a complete pedestrian grid in Forest Grove.

Action 1.1.2: Sidewalk standards shall be developed to define various widths, as necessary, for City street types.

Policy 1.2: Collaborate with TriMet and other transit providers to provide convenient and accessible public transit service.

Action 1.2.3: The City will identify key segments of pedestrian network to be constructed or improved to enhance transit access in underserved areas of the City.

Action 1.2.4: The City will identify key improvements to street crossings to enhance safety and reliability of access to transit.

Action 1.2.5: The City will provide their specific needs to TriMet as part of their annual system review.

Policy 1.3: Support travel options that allow individuals to reduce single-occupant vehicle trips.

Policy 1.4: Establish local non-Single Occupancy Vehicle (SOV) modal targets, subject to new data and methodology made available to local governments, for all relevant design types identified in the Regional Transportation Plan. Targets must meet or exceed regional targets for 2040 Growth Concept land use design types as illustrated in the following table:

2040 Regional Metro Non-Single Occupant Vehicle

2040 Design Type	Modal Target
Regional centers, town centers, main streets, station communities, corridors	45 to 55 percent non-single occupant vehicle
Industrial areas, employment areas, inner neighborhoods, outer neighborhoods	40 to 45 percent non-single occupant vehicle.

Policy 1.5: Encourage local employment and commercial opportunities to reduce the number of locally generated regional work and shopping trips.

Transportation

Goals & Policies

Goal 2 Develop and maintain a transportation system that reduces the length of travel and limits congestion.

Policy 2.1: Enhance street system connectivity wherever practical and feasible.

Action 2.1.1: Establish design criteria and implementing ordinances to enable the connection of streets identified on the plan as funds are available and new development or redevelopment arise. Exceptions will be given where connections are prevented by topography, barriers such as railroads, expressway or pre-existing development or environmental constraints.

Action 2.1.2: The City will develop a local and neighborhood street system with a preferred spacing of no more than 530 feet, between elements of the City street network.

Action 2.1.3: The City will develop a walkway route system with a preferred spacing of no more than 330 feet, between elements of the City pedestrian network.

Policy 2.2: Maintain traffic flow and mobility on arterial or collector roadways.

Action 2.2.1: The City will work with ODOT and Washington County to preserve access control standards to reduce conflicts among vehicles and trucks, as well as conflicts between vehicles and pedestrians.

Policy 2.3: Work with Washington County, Metro and ODOT to develop, operate and maintain intelligent transportation systems, including traffic signal coordination.

Goal 3 Develop and maintain a transportation system that is safe.

Policy 3.1: Safe and secure pedestrian and bicycle ways shall be designed between parks and other activity centers in Forest Grove

Policy 3.2: Safe and secure routes to schools shall be design for each school and any new residential project shall identify the safe path to school for children.

Policy 3.3: All transportation-related improvements will be designed and constructed to meet City standards developed in the City's Design Standards, the American with Disabilities Act (ADA) and to encourage provisions for bicycling, walking and transit use.

Policy 3.4: Access control and spacing standards should be developed for all streets to improve safety and promote efficient through street movement. Access control measures shall be generally consistent with Washington County access guidelines to ensure consistency on city and county roads.

Action 3.4.1: The City will adopt and implement access control and spacing standards for all street classifications in Forest Grove. For roadway reconstruction, existing driveways shall be compared with standards and a reasonable attempt shall be made to comply.

Policy 3.5: Generally favor granting property access from the street with the lowest functional classification.

Policy 3.6: Establish a City monitoring system that regularly evaluates, prioritizes and mitigates high accident locations within the City.

Action 3.6.1: Review traffic accident information regularly to systematically identify, prioritize and remedy safety problems. Working with the County, develop a list of projects necessary to eliminate safety problems. Require development applications to identify and mitigate for high accident locations if they generate 10% increase to existing traffic at an intersection.

Policy 3.7: New roadways shall meet Illuminating Engineers Society Lighting Standards. Existing roadways within the City shall be systematically retrofitted with roadway lighting as roadway reconstruction and fronting property redevelopment opportunities occur.

Action 3.7.1: Priority locations for roadway lighting shall include schools, parks and town center. The City shall coordinate with the City's Light and Power district.

Goal 4 Design and construct transportation facilities in a manner that enhances the livability of Forest Grove.

Policy 4.1: Maintain the livability of Forest Grove through proper location and design of transportation facilities.

Action 4.1.1: Design street and highways to respect the characteristics of the surrounding land uses, natural features and other community amenities.

Policy 4.2: Increase the health and physical well-being of citizens through walking and bicycling.

Policy 4.3: Protect residential neighborhoods from excessive through traffic and travel speeds while providing reasonable access to and from residential areas.

Action 4.3.1: Allow for neighborhood traffic management on appropriate roadways.

Policy 4.4: Provide a seamless and coordinated transportation system that is barrier-free, provides affordable and equitable access to travel choices and serve the needs of all people and businesses, including people with low income, children, seniors and people with disabilities.

Action 4.4.1: Pedestrian crossing spacing, traffic signal spacing and landscape standards for arterials in Forest Grove shall be developed in conjunction with Washington County, ODOT and Metro.

Action 4.4.2: Construct new transportation facilities and rebuild existing facilities to fully comply with the Americans with Disabilities Act.

Goal 5 Promote the development of Forest Grove, the state and the national economy through the efficient movement of people, goods, services, and information in a safe and efficient manner.

Policy 5.1: Ensure a safe and efficient freight system that facilitates the movement of goods to, from and through Forest Grove and through the region while minimizing conflicts with other travel modes.

Policy 5.2: Require safe routing of hazardous materials consistent with federal and state guidelines.

Policy 5.3: Grade separation or gate control should be considered for all railroad crossings.

Action 5.3.1: Support the upgrading of railroad grade crossings to current design standards.

Policy 5.4: Provide transportation facilities that support land development that is consistent with the Comprehensive Plan.

Policy 5.5: Evaluate land development projects to determine possible adverse traffic impacts.

Policy 5.6: Ensure that all new development contributes to a fair share toward on-site and off-site transportation system improvement remedies.

Action 5.6.1: Require dedication of land for future streets when development is approved.

Action 5.6.2: The property developer shall be required to make street improvements for their portion of the street commensurate with the proportional benefit that the improvement provides the development.

Goal 6 Establish and maintain a context sensitive set of transportation design and development regulations.

Policy 6.1: Streets should be designed to support their intended users.

Action 6.1.1: A street functional class system shall be developed for Forest Grove, which meets the City's needs and respects the needs of other agencies (Washington County, ODOT, and Metro). Appropriate design standards for these roadways shall be developed by the appropriate jurisdictions.

Action 6.1.2: A primary emergency response route system shall be developed for roadways within Forest Grove in coordination with the local Fire District. Appropriate traffic calming guidelines for these routes shall be developed in coordination with the local Fire District and other local emergency service providers.

Policy 6.2: Integrate bicycle and pedestrian facilities into all planning design, construction and maintenance activities.

Policy 6.3: Require developers to include pedestrian, bicycle, and transit-supportive improvements within proposed developments and to adjacent right-of-way in accordance with adopted policies and standards.

Action 6.3.1: The City will adopt design standards that require new retail, office and institutional buildings on site at RTP designated major transit stops to meet RTP design requirements.

Policy 6.4: Promote context sensitive transportation facility design, which fits the physical context, responds to environmental resources, and maintains safety and mobility.

Action 6.4.1: Amend street design standards to allow for design exceptions for various street elements (e.g. reduced land width, methods and materials for provisions of sidewalks, etc.) to fit constrained settings, or unusual applications. Design exceptions would be subject to review and approval by the City Engineer.

Action 6.4.2: Amend street design standards to allow for options related to storm drainage design on City facilities. These "green street" design options would be subject to review and approval of the City Engineer.

Goal 7 Provide a transportation system that meets present needs without compromising the ability of future generations to meet their needs.

Policy 7.1: Encourage an energy efficient transportation system.

Policy 7.2: Increase the use of walking and bicycling for all travel purposes.

Policy 7.3: Improve and enhance the livability of Forest Grove residents by decreasing reliance in the automobile and increasing other modes to minimize transportation system impacts on the environment.

Policy 7.4: Practice stewardship of air, water, land, wildlife and botanical resources. Take into account the natural environments in the planning, design, construction and maintenance of the transportation system.

Goal 8 Provide transportation performance measures set and maintained by the City.

Policy 8.1: A minimum intersection level of service standard shall be set for the City of Forest Grove. All public facilities under the City's jurisdiction shall be designed to meet this standard.

Action 8.1.1: Level of service D shall be the City's mobility standard to balance provision of roadway capacity with level of service funding.

Policy 8.2: Parking minimum and maximum ratios shall be set to provide adequate parking, while providing an incentive to limit the use of the single occupant vehicle. DEQ encourages lower parking ratios to encourage use of alternative modes (walking, biking, transit, carpooling, etc.).

Action 8.2.1: Parking standards shall be included in the City Development Code.

Goal 9 Develop a transportation system that is consistent with the City's Comprehensive Plan and adopted state and regional plans.

Policy 9.1: Coordinate and cooperate with adjacent jurisdictions and other transportation agencies to develop transportation projects that benefit the City of Forest Grove and the region as a whole.

Action 9.1.1: Work with Metro in developing travel forecasts for the City that are used to assess future regional travel needs. Housing and employment forecasts for Forest Grove should be consistent with the Metro forecasts in the latest adopted Regional Transportation Plan.

Policy 9.2: Work collaboratively with other jurisdictions and agencies so the transportation system can function as one system.

Action: City will consider the State adopted mobility standards for all state facilities, based on the Oregon Highway Plan.

Policy 9.3: Coordinate with other jurisdictions and community organizations to develop and distribute transportation-related information.

Policy 9.4: Review City transportation standards periodically to ensure consistency with regional, State and federal standards.

Policy 9.5: Coordinate with TriMet and adjacent jurisdictions to identify existing and future transit related needs.

Action 9.5.1: The City will coordinate with TriMet to provide additional rider amenities (shelters, lighting, trash cans, route information) at transit stops within the City that are consistent with TriMet guidelines.

Policy 9.6: Coordinate with local railroad companies and the Oregon Public Utilities Commission to provide an efficient and accessible commercial railroad system in and through Forest Grove.

Policy 9.7: Coordinate with ODOT to address improvements to State highways within Forest Grove that will benefit all modes of transportation.

Goal 10 Efficiently use funding sources to implement transportation system improvement projects recommended in the TSP.

Policy 10.1: Provide a cost-effective transportation system where the public, land use development and users pay their respective share of the system's costs proportional to their respective demands placed upon the multimodal system.

Policy 10.2: Identify and develop diverse and stable funding sources to implement recommended projects in a timely fashion.

Policy 10.3: Ensure maintenance of the transportation system as a priority.

Policy 10.4: Identify local street improvement projects that can be funded by the State of Oregon to improve the state highway system.

Action 10.4.1: The City will identify local street system improvements that are cost-effective in improving state facility conditions. These projects could be candidates for state financial assistance.

Policy 10.5: Provide funding for local match share of joint funded capital projects with other public partners.

Policy 10.6: Funding should be prioritized to enable projects and programs that are most effective at meeting the goals and policies of the Transportation System Plan.

Action 10.6.1: The City will develop and apply outcome-based funding strategies for crucial transportation investments in the community.

Implementation

The goals and policies contained in the comprehensive plan, including the Transportation System Plan, will be implemented through a variety of funding sources. These include:

- Transportation System Development Charges (Washington County Transportation Development Tax);
- Federal Transportation Funding allocated by the Metropolitan Planning Organization;
- Development exactions (based on development impact to the system); and
- Other sources of funding identified in the Transportation System Plan.

Implementation will also occur through the City of Forest Grove Development Code and Capital Improvement Program.